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NOVEMBER 10, 1926

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No. 20 *of a series of experiences of our noted Fire Chiefs*

EDWARD F. SAUNDERS
Chief of Fire Department
Lowell, Mass.

Our hardest fire was that of Saturday afternoon, June 3rd of this year, when a blaze in the basement of the Pollard department store, with only janitors on duty, gained such headway before discovery that for a time the entire business section of Lowell was endangered

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EDWARD F. SAUNDERS
Chief of Fire Department
Lowell, Mass.

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The Journal of the Fire Protection Profession Since 1877

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FIRE ENGINEERING

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WHAT do you consider as the really big game of the day—Princeton-Harvard? Michigan-Wisconsin? Or the Army, the Navy, or the University of California-Washington game?

¶ Probably none of these. Probably you agree with us that the most vital game of all is the one involved in the work of our chosen profession, whatever it may be.

¶ Fire prevention and fire protection represents one of the most honorable and the most essential of all human activities, and those who are enthusiastically engaged in this great work can well approach it with the feeling that it is a grand and glorious game, where victory comes to the side with the greatest stamina, ability and love of the game,—a job in which FIRE ENGINEERING hopes it is playing its part.

The Publishers

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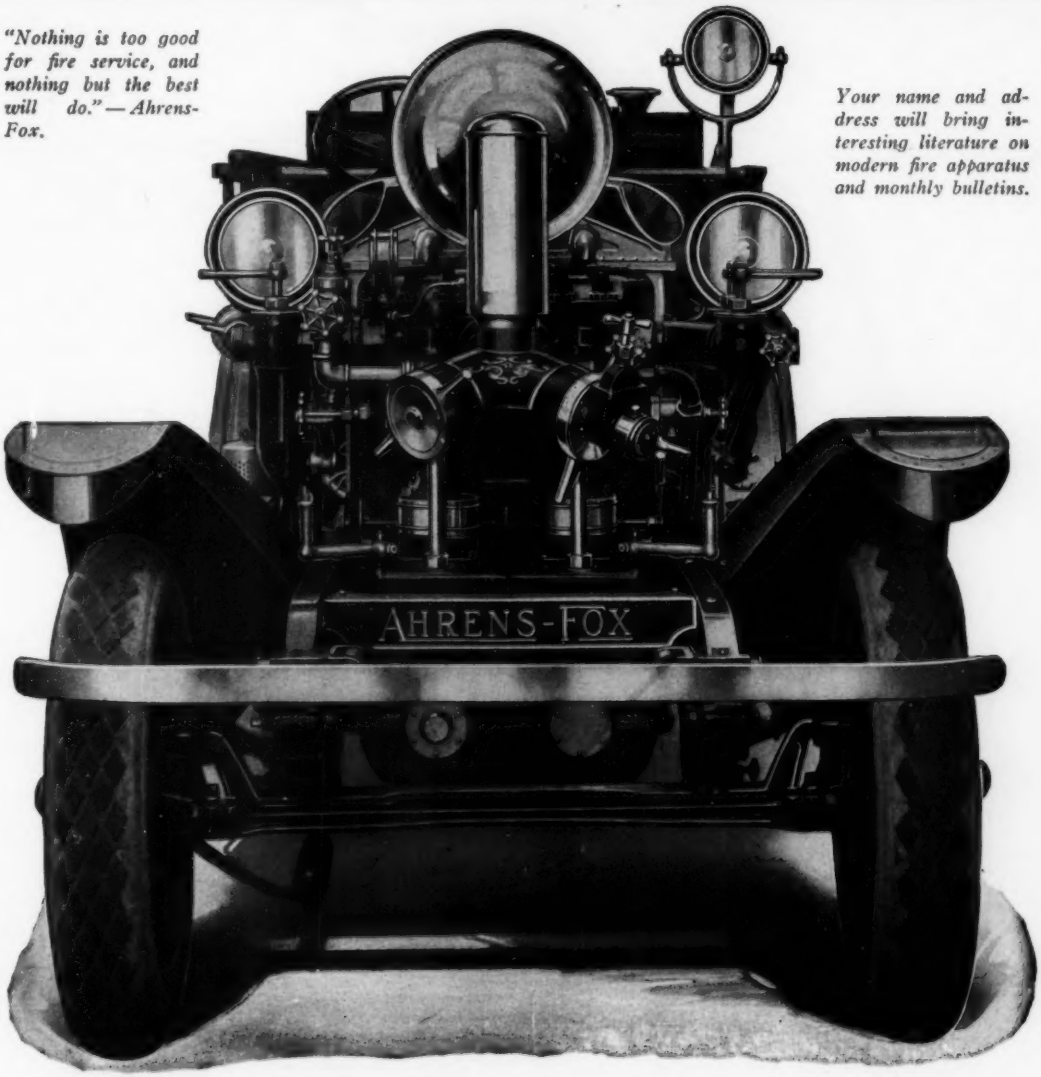

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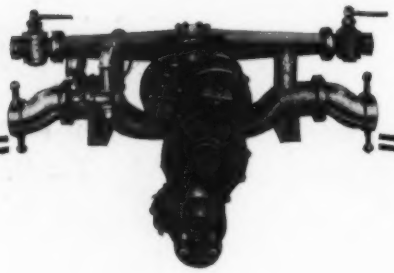

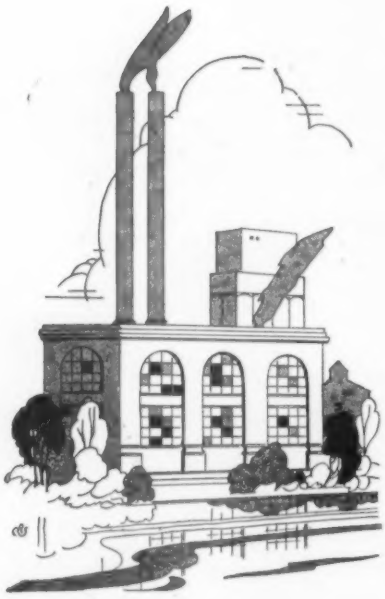

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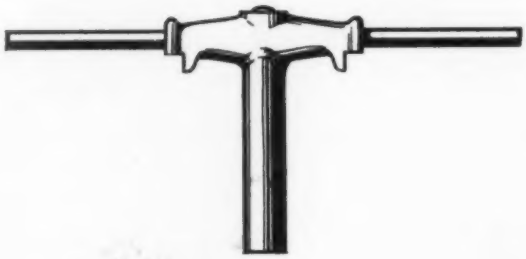

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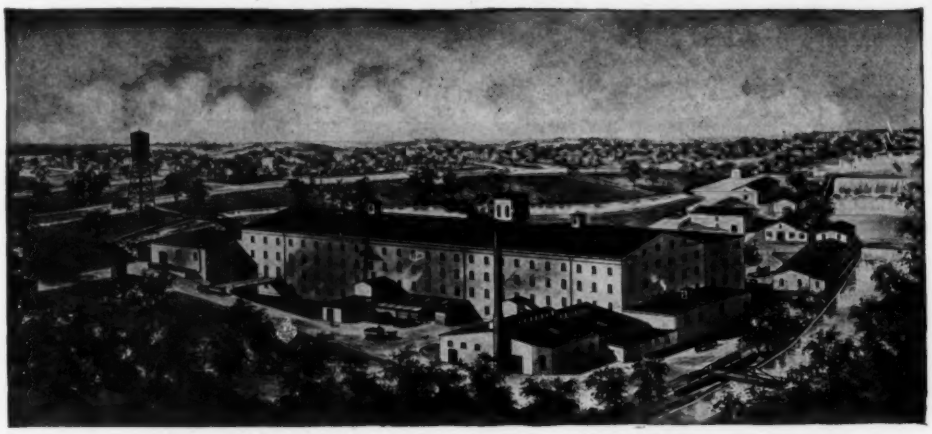

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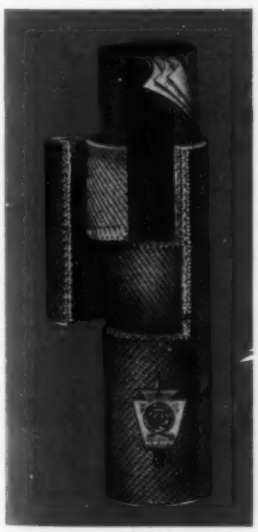

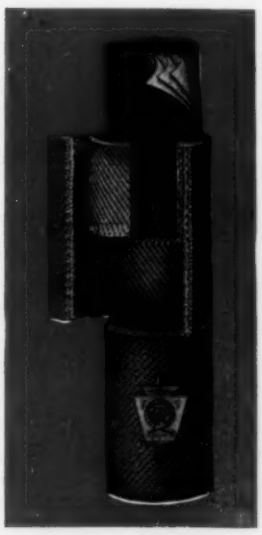

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FIRE ENGINEERING

(A Consolidation of Fire and Water Engineering and The Fire Engineer)

The Leading Journal of the Fire Protection Profession

VOLUME LXXIX NOVEMBER 10, 1926 NUMBER 21

The Fire Commissioner and His Department

Importance of Cooperation with Chief and Officers—Housing and Welfare of Men—Necessity for Schools—Enforcement of Rules and Regulations

By FRANK COLBOURN, Commissioner of Public Health and Safety, Oakland, Cal.*

THE following paper is particularly interesting in that it treats the subjects of fire-fighting, fire prevention and fire department management from the standpoint of the fire commissioner:

The duties of a fire commissioner differ in different cities. In some cities there are boards of commissioners, and in others, individual commissioners. In the city represented by me, my duties as commissioner of public health and safety include those of fire commissioner. Not only is the commissioner the policy-making official, but he is also a member of the legislative or law making body of the city. The duties of a fire commissioner embrace every activity of the fire department, but he must of necessity depend upon his chief. It would therefore appear that the main function of a fire commissioner is to select a first class chief and let him run the department with a free hand in all matters pertaining to the administration of the same, reserving only questions of policy for the commissioner, for after all is said and done, no fire department can be a success without a first class executive at its head, and no first class executive can be a success unless he has a free hand in all matters of assignment and detail and general administration. Therefore, we will deal with the question of policy and let the rest, in a measure take care of itself.

Frank Colbourn,
Commr. Public Health and Safety, Oakland, Cal.

The Business of the Fire Department

To explain my ideas, I would like to analyze the business of the fire department as I see it. For purposes of illustration, let us make the following classification of the work:

1. Men
2. Training
3. Housing conditions
4. Equipment, signal system and water supply.

These are all of equal importance in the modern fire department.

The first thing necessary is to see that the department has a first class personnel; that the men selected to work in the department have the makings of high class public servants, able to take orders from their superior officers and willing to learn. In fire departments in most of our cities the men are selected through civil service and the appointing officer has little choice in the matter. However, there is a probationary period, usually of one year, during which time these recruits are educated and tried out in fire work, and fire chiefs and other superior officers should have courage enough to recommend the removal from the service of those who have not made good during this period, and it is the function of a commissioner to carry out their recommendations.

I am firmly of the belief that it is the duty of a fire commissioner to secure for members of the department a fair and adequate salary; to provide good working hours, and to be just and firm in dealing with all matters pertaining to the men, but to demand in return first class service.

The fire commissioner must, of necessity, look to the officers for results, because the men working under them reflect, in a large measure, their general character, and characteristics. Aside from his ability to pass a promotional test, a man must have some qualifications for leadership, to make a good officer, able to command and when needs be to recommend proper discipline for infractions of the rules. Usually the commissioner must pass final judgment in all matters of discipline and he must have the support of first class officers to enable him to deal justly and fairly in such matters.

Every Department Large Enough Should Have School

Since fire department business cannot be learned except through experience and study, it has been found necessary for modern fire departments to establish schools to which recruits and officers can go to be taught the fundamental principles and advanced methods of fire department work. This is rather an expensive proposition and probably beyond the means of the small fire department, but where a department is large enough to support such a school it appears to me that it should do so, and the function of the commissioner in this regard is to see that the school is established and placed in charge of an officer who is competent to teach the theoretical and practical business of the fire department, and where civil service is in operation, to plan the studies so that they will assist the men to qualify for promotional examinations.

We must get away from the idea that any misfit human being who has made a failure of every other kind of a job is good material for the fire department, for after all it is the men that make the department. Some years ago it was thought that a man who was strong in the back and weak in the head made a good fireman; this has been proven a fallacy, because every firemen who enters the service is a potential officer and when he becomes such he will require more than brawn to make his job a success.

*From a paper read before the annual conventions of the International Association of Fire Chiefs and the Pacific Coast Association of Fire Chiefs.

"The Commissioner can be a wonderful help to the department, if he is the right kind of a man. A Fire Commissioner with a big, broad vision, with a firm and definite policy toward the men and the work will produce good results. We must have those who lead us who have the three main fundamentals — honesty, competency and courage."

You may think all this has nothing to do with the functions of a fire commissioner, but the commissioner cannot be a success unless the individual units are a success, and his department as a whole is a success, likewise. The nature of fire department work, confining, as it does, men in fire house units, has a tendency very often to try the individual men, and they are apt to form little cliques if something is not done to keep them interested in their work and create a proper esprit de corps.

Men's Welfare Must be Conserved

While I am on the subject of the men, I cannot help but note this fact—that the men's welfare must be better conserved; that too many deaths and serious accidents are being caused by collisions occurring while apparatus is responding to fire alarms. We take greater care to safeguard our men while fighting fires than while responding to alarms; the result is that we have, in comparison, few deaths in our city from fire fighting, most of the fatalities being due to collisions. People are apt to fail to hear the siren, or to disregard its warning; street cars and trains are the greatest violators, because there seems to be an erroneous understanding that they have the right-of-way. In our city we have thought it advisable to have a follow-up wagon with officers on it empowered to make arrests, with instructions to arrest all violators of the ordinance requiring drivers on a public highway to come to a full stop when the siren is sounded.

The elimination of the fire horse has completely revolutionized ideas of the modern fire house, all apparatus now being motor driven. This permits of better housing possibilities and architectural improvements, and as a result our modern bungalow type fire houses are a credit to any neighborhood. Some of the older fire houses in our cities are in a deplorable condition and are not even fit to house animals, let alone human beings.

Men Should be Properly Housed

It is therefore the duty of a fire commissioner to see that the men are properly housed, and aside from being a matter of common decency this is economy in the long run, for proper housing means reduced sickness, and a sick man is a financial burden while a healthy man is an asset; furthermore, a greater number of units of hourly service will be rendered per individual and general good feeling will be engendered.

The men should be required to keep their houses clean and sanitary. Ample provision should be made for shower baths and dormitories, to be taken advantage of by the men when they return from fires.

Height of Folly to Buy Poor Equipment

Modern science has produced fire apparatus and equipment that enable the men to more efficiently carry on their work. It is the height of folly to buy poor, flimsily constructed equipment, because when the essentials, dependability with speed, are eliminated, the equipment is worse than useless. I have seen

(*Continued on page* 1164)

A Group of Officials at the Convention of the Pacific Chiefs

The above group of some of the officials of the Pacific Coast Association of Fire Chiefs was taken during the recent convention at Fresno, Cal. In the group from left to right are Jay W. Stevens, California State Fire Marshal and secretary; Chief George M. Mantor, Seattle, Wash., president; Chief Sam H. Short, Oakland, Cal., retiring vice-president; Chief Mark E. Ryan, Redwood City, retiring first vice-president; Chief Joe Wood, Renton, Wash., treasurer.

ANOTHER NEW YORK CITY FIRE DEPARTMENT RETIREMENT BILL

Measure Similar to One Opposed Two Years Ago Introduced Into Board of Aldermen—Commissioner Given Discretionary Powers—62 Years Retirement Age

ANOTHER age retirement bill affecting firemen has been introduced into the local legislature of the city of New York.

The latest measure seeks to give to the fire commissioner discretionary power to retire any member of the uniformed force at the age of sixty-two years, on not less than half pay.

It was introduced in the Board of Aldermen by Alderman Edward J. Curley, representing a district in the lower section of The Bronx, one of the five boroughs of the Greater City. It seeks to amend the city charter by revising Section 790 of the charter which has to do with the retirement and the pensioning of members of the fire department.

The bill has been referred to the Committee on Local Laws. If it should be reported out, it will then have to go to the upper house of the Municipal Assembly, or the Board of Estimate and Apportionment. If successful there, it will have to have a public hearing and then it will have to be signed by the mayor.

The bill, if passed, will affect Fire Chief John Kenlon, about forty per cent of the senior or deputy chiefs of department, about twenty per cent of the battalion chiefs and about seven or eight per cent of the captains of engine and truck companies. It will affect a negligible number of blue shirts.

The bill is fostered by a coterie of young officers and eligibles for promotion, who are openly and outwardly vehement in their disappointment over the longevity of some of the senior officers who are on active duty, day in and day out.

A similar bill introduced two years ago by an Alderman from the district of the then Fire Commissioner Thomas J. Drennan, was bitterly opposed because it was not mandatory. It is a foregone conclusion that this bill, too, will be opposed because it is not mandatory. At that time Chief Kenlon, speaking against the measure at a public hearing, stated clearly and pointedly that if there is to be a retirement age limit—"make it a mandatory one."

His reason for this was that he did not wish to subject the officers and the men in the line to outside influences in order to remain in the service. He said then and it is known that he feels the same way now, that permissive retirement legislation will destroy the morale and efficiency of the fire fighting force and make the senior officers subservient to political and other influences in order to hold their jobs.

On the other hand, it is not to be denied that the department in New York has some veteran officers. These men, while not as physically active as their younger comrades, are nevertheless able to perform fire duty and their mental capacity and experience more than balances the physical activities of the younger officers.

As matters stand today, the existing laws of the city of New York give the fire commissioner ample powers to retire any officer or fireman who is physically unfit to perform the duties of the office. Twenty-six such retirements were effected last year. This may be done by ordering such officer before the medical board to be examined as to his fitness to continue in the service, but such an examination, the youngsters complain, is full of loop-holes and the veterans remain on the job, while the younger officers do the actual fire fighting.

The New York Fire Department has a total uniformed personnel of 6,078. Last year the promotions were as follows: To Deputy Chief, 14; to Battalion Chief, 57; to Captain, 82; and to Lieutenant, 107. This was an exceptional year due to the doubling-up of Divisions and Battalions in order to have Chief Officers of equal rank on each platoon each day.

Fire Commissioner Dorman disclaims any responsibility for the introduction of the latest retirement bill. His bailiwick is far removed from the territory from which the present bill emanated. Moreover, it is known that he would much rather see a retirement measure made mandatory rather than permissive, as it would relieve him from the unpleasant and troublesome task of deciding who shall remain and who shall go.

W. J. DALY.

Firemen of Marquette, Mich., Have Dispute—Changes in the shifts of one of the fire stations in Marquette, Mich., which did not effect the working hours of the other stations, has caused a dispute among the firemen. At one of the stations, the men now work twenty-four hours and have a like number of hours off. At another station, the men have only one day off a week, and the men believe that they were discriminated against.

Much Accomplished at Chiefs' Convention

More Progressive Moves Made at New Orleans Than at Any Previous Meeting—Resume of Work Done

FROM almost every angle the recent convention at New Orleans marks the turning point in the history of the International Association of Fire Chiefs.

The problems of membership, of finance and of fire prevention work are all provided for through action taken at that meeting.

Name of Association Changed

Of prime importance was the action of the convention in changing the name of the association from the International Association of Fire Engineers to the International Association of Fire Chiefs.

The old name was indeed confusing and in no manner indicated the makeup of the organization. The title "Fire Engineer" is vague and only those familiar with the association were acquainted with the significance of this designation. It was probably a bigger handicap than was fully appreciated to have a name which did not clearly identify the organization and its membership. The new name completely eliminates this handicap and clearly identifies the organization as being made up of heads of fire departments. With this much clarified title the association will be in a far better position to carry on its work. While it is mighty nice to designate the chief of a fire department as the Chief Engineer, unless this title could be incorporated in full in the name of the association it had better be eliminated or shortened to "Chief". This was the most satisfactory method of getting around the difficulty. Now when the association is spoken of among strangers they will at once have a pretty fair knowledge of the organization and of what it is composed.

That the change was made without one dissenting vote speaks volumes for the judgment of the delegates present. From now on there will be no confusion brought about by similar named organizations for the title "Fire Chief" is specific and can be construed to mean only that which it represents, namely, the head of the fire department.

New Membership Fees

Hereafter active members of the organization will have to pay only two dollars instead of five dollars as the membership fee. But if they attend the convention they must pay in addition to the two dollars a five dollar convention registration fee.

The amendment to the constitution permitting this change is going to be productive of mighty fine results in building up a large membership. The small town fire chief who is not able to attend the conventions will not be burdened by paying the fee of only two dollars and in view of the fact that he will receive *The International Fire Chief,* the official organ of the association each month, and whatever bulletins the association may issue, will well make the investment a paying one for him.

In the past the membership of the association was in reality only the attendance at any particular convention.

When the convention met at a city the membership was made up of the regulars who came year after year from all over the country and, in addition, quite a number of small town chiefs in the immediate vicinity of the convention city. When the convention moved to another part of the country the following year, the regulars appeared as usual but the small town chiefs who had attended the previous convention were not among those present. Their participation was limited to the one convention and incidentally the one year.

But with the new arrangement, entailing a fee of only two dollars per year for non attending members, it may well be expected that a very large proportion of the fire chiefs attending any particular convention from small towns will continue their membership in the association once they have joined. This will mean the rapid growth of the organization and its incidental growth in power. While apparently a very small matter, the new membership fee plans will result in an increased membership of the association from the present total of around 500 to possibly 2,000, or even more.

The Board of Directors had given this matter serious consideration at the last meeting prior to the convention and with their endorsement and an explanation of the plan by Jay Stevens, the plan was adopted without a dissenting vote.

The Executive Secretary

It is difficult indeed, if not impossible, for a man actively engaged as the head of a fire department to give sufficient time to the work of the association to accomplish what would be possible by a man devoting his entire time to this work. So many big things are now in the future for the organization that it is deemed advisable to establish the position of an Executive Secretary. To secure the maximum benefits from this new position, it was, of course, necessary to put a thoroughly capable man therein. It is not surprising, therefore, that the president immediately appointed Jay Stevens, who has been so active in the work of the association, to the position of Executive Secretary. Chief Stevens has had wide experience in fire department activities and his work in building up the Pacific Coast Association of Fire Chiefs speaks volumes for what he is able to accomplish.

The work of the Executive Secretary will be made up of tasks which will develop as the result of increasing activities of the association, and will in no way interfere with the work of the present secretary, Chief James J. Mulcahey of Yonkers, N. Y., who continues in the position which he has filled so ably for so many years.

As time goes on the office of the Executive Secretary will in-

HIGH POINTS AT THE CONVENTION

The name of the association changed to "International Association of Fire Chiefs."

Reduction of dues and adoption of convention registration fee.

Establishment of the office of Executive Secretary and the appointment of Jay Stevens to that position.

Showing of "The Fire Brigade."

Appointment of a Traffic Committee to devise means of alleviating the serious problem of street congestion.

L. C. Moss, sales mgr., Jaeger Portable Power Co. | Lester Stevenson, sales mgr., Seagrave Corp. | G. H. Litchfield, mgr. motor apparatus sales, Foamite-Childs. | J. A. McLance, new fire comm., New Orleans. | Wallace MacGregor | Wesley Bush, Chief, Tulsa, Okla.

Some of Those Who Attended the I. A. F. C. Convention.

crease in importance and will eventually be headquarters for information relating to the association and its activities.

Chiefs See "The Fire Brigade"

It was a mighty interested group of spectators who witnessed the first showing of "The Fire Brigade" at Loew's State Theatre, New Orleans, on Wednesday, October 20th. Although the

The Boat Ride Around New Orleans.
Upper—All aboard for the river trip on the steamer "Capitol."
Lower—The New England group of fire chiefs on the upper deck.

showing did not start until 11:15 p. m. and did not wind up until around two o'clock in the morning, the theatre was crowded, every seat being filled. It is evident from the records of the secretarys' office, where tickets were given out, that few if any of the chiefs in attendance at the convention missed this interesting feature of the meeting.

Hereafter they will be in a position to give an opinion on the merits of the picture and will know just what to say regarding it in connection with publicity given the film in their particular municipalities. Although the film is yet in a comparatively unfinished state, and despite the fact that there remains nearly $200,000 worth of work to be done on it, it was considered a great success.

Some little details, of necessity, are not technically correct but dramatists' license requires that these minor imperfections be permitted in order to make the picture interesting to the average layman.

The film will likely be completed by the first of the year and at that time be released for public showing.

Mr. Louis B. Mayer, Vice-President of the Metro-Goldwyn-Mayer Corporation, the makers of the film, was very optimistic of the success of the picture. He stated, in an address to the chiefs on the last day of the convention, that the film would probably net them far more than they anticipate. With the success of the picture practically assured, the association will benefit greatly by it and the treasury ought to be in shape for accomplishing really great things after the money begins to come in.

This money will, in all liklihood, place the organization in a position financially where it will not have to trouble itself for some time in raising of funds.

It will make possible the maintaining of a permanent head-

The Indianapolis Band at the Convention

quarters and also the institution of activities designed to benefit the entire country through fire waste reduction.

Traffic Committee Appointed

Of the various topics presented at the convention possibly the one which brought forth most discussion was that on the subject of traffic, by Chief John Kenlon of the New York Fire Department. So many suggestions were advanced that it was deemed advisable to appoint a committee to discuss this matter and report at the next convention. It is hoped that some definite solution to the serious problem created by the great increase in motor vehicles in cities will be brought about.

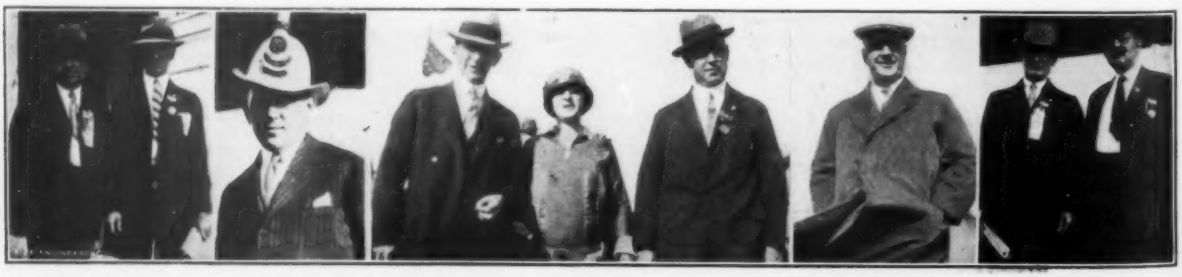
Chief Kenlon Appointed A Director

The presence of Chief John Kenlon of the New York Fire Department at this year's convention, following an absence from these meetings for the past six years, and his active work at the sessions, augurs well for the future of the organization. Chief Kenlon has facilities without parallel for constructive work along the lines which will greatly benefit the entire membership of the International Association of Fire Chiefs, and his appointment as Director will make it possible for the organization to secure the benefit of his counsel and advice. Chief Kenlon has the interest of the association at heart and no one will be more pleased at its growth in strength and activities than he. With Chief Kenlon back on deck practically every city of importance was represented at the convention.

A Fire Department Memorial

In order to perpetuate the memory of the brothers in the fire fighting fraternity who have paid the supreme sacrifice in defense of life and property against fire in the past, as well as for such events which may occur in the future, a memorial building has been proposed to be placed at some suitable site. It is planned that this building also serve as a bureau for the use of members of fire departments who desire to visit the same, and for information pertaining to fire department matters of all cities within the jurisdiction of the association. A reso-

(*Continued on page* 1156)



Chief Sam Short, Oakland, Cal., and Chief John F. Healy, Denver.

H. L. Mencken, editor, "The American Mercury."

Chief George L. Johnson, Waltham, Mass.; Mrs. C. L. McCarthy and Chief C. L. McCarthy, Worcester, Mass.

Chief George Heddon, Buffalo, N. Y.

Chief Thomas R. Murphy, San Francisco, and Chief John J. Moran, Hartford, Conn.

Each One of Them Reported an Enjoyable Time

New Rules of the New York Fire Department

Supersede Those of 1912—Language Simplified and Many Important Changes Made—To Be Published Serially in These Columns

FOLLOWING is the first installment of the "Rules and Regulations of the Uniformed Force of the Fire Department of the City of New York," just issued by that department, and which are to be published serially in their entirety in FIRE ENGINEERING. *This book has been compiled and edited by Captain John J. McCarthy, of H. & L. No. 43, detailed in charge of the Division of Public Assembly at Fire Headquarters, who worked under the personal supervision of Chief John Kenlon.*

The endeavor has been successfully made in this work to use simple and direct language, and to avoid complexities as found in the various sections of the old rules. With this plan in view, the sections have been increased from 174 in the 1912 edition to 323 in the new, each division treating of one subject only and conveying a single thought.

Organization

SECTION 1. The uniformed force of the Fire Department shall consist of a Chief of Department, Deputy Chiefs of Department, Chiefs of Battalion, Chief Medical Officer, Medical Officers, Chief of Construction and Repairs to Apparatus, Chief Instructor, Chaplains, Fire Marshals, Captains, Lieutenants, Marine Engineers, Engineers of Steamer, Pilots of Fireboats and Firemen.

SEC. 2. For the purpose of drill, evolution, parade, review, etc., the following relative titles of rank shall be observed:

Chief of Department	Brigadier General
Deputy Chief of Department	Colonel
Chief Medical Officer	Lieutenant Colonel
Chief of Battalion	Major
Medical Officer	Major
Chief of Construction, etc.	Major
Chaplain	Major
Captain	Captain
Fire Marshal	Captain
Lieutenant	Lieutenant
Engineer, Pilot, Fireman	Private

SEC. 3. The entire uniformed force shall be commanded by the Chief of Department, and shall be organized into divisions, battalions and companies.

A Division shall be composed of a number of battalions commanded by a Deputy Chief of Department.

A Battalion shall be composed of a number of companies commanded by a Chief of Battalion.

A Company shall be composed of a Captain, one or more Lieutenants, and in engine companies as many engineers of steamer and firemen, and in hook and ladder companies as many firemen as may be deemed necessary.

In the absence of officers in charge of any of the commands, members of the next lower rank shall be designated to perform their duties.

SEC. 4. Where two officers of the same rank are assigned for duty in a Division, Battalion or Company, the senior officer in the rank shall exercise command and be responsible for all administrative matters affecting the unit, unless otherwise directed by the Chief of Department.

Both officers shall be equally responsible for the proper maintenance of discipline and efficiency.

Chief of Department

SEC. 5. The Chief of Department shall be the head of the bureau of fire; shall have command and control of the uniformed force, the extinguishment of fires and the necessary and incidental protection of property in connection therewith.

SEC. 6. He shall nominate a corps of sappers and miners as provided by Laws of 1897, Chapter 378, Section 751.

SEC. 7. He shall have full control over all apparatus, hose, fuel, implements, tools and their assignments.

SEC. 8. He shall have power, in the event of fire, to demolish buildings and parts of buildings which, in his judgment, might cause further damage to life or property.

SEC. 9. He shall have power, during a conflagration or other similar emergency, to temporarily suspend the operation of the two-platoon system, and shall report his action to the Fire Commissioner, as soon as possible.

SEC. 10. He shall have power to summarily suspend any member of the uniformed force from duty, for flagrant violation of the rules and regulations when the reputation and discipline of the department would suffer if such action were not taken. He shall promptly report each suspension to the Fire Commissioner.

SEC. 11. He shall conduct such inspections as he may deem necessary for the proper fulfillment of his duties.

SEC. 12. He shall promptly report to the Commissioner any member who, by reason of age, disease, accident or other incompetency cannot, in his opinion, properly perform full active duty in any position to which he may be assigned.

SEC. 13. He shall make special reports upon any subjects which, in his judgment, require the attention of the Commissioner.

SEC. 14. He shall recommend to the Commissioner, from time to time, the selection of new sites; changes in the location of companies; the building of new company quarters; the purchase of new apparatus, hose, implements, etc., the rebuilding, breaking up, or sale, if necessary, of old apparatus, hose, implements and appliances, with his reasons. He shall report the results of tests of apparatus, hose, implements and appliances, together with has approval or disapproval thereof, with reasons, before purchase or acceptance of such.

SEC. 15. He shall designate members of any of the various grades to temporarily perform the duties of the members of the next higher grade, and shall specify, when necessary, the duties to be performed by members.

SEC. 16. He shall designate four members of the uniformed force, who shall have had suitable experience, to act as Supervising Engineers in the Boroughs of Manhattan, Bronx, Richmond, Brooklyn and Queens.

Deputy Chiefs of Department

SEC. 17. The Deputy Chief of Department in charge of the Boroughs of Brooklyn and Queens shall have command of the uniformed force in those Boroughs, and shall be responsible to the Chief of Department for its management.

SEC. 18. Deputy Chiefs of Department shall respond to alarms for fire, as provided by the orders of the Department.

SEC. 19. They shall promptly notify the Chief of Department, by telephone and written report, of all flagrant violations of laws, orders, rules or regulations, by members, necessitating, in their opinion, suspension from duty.

SEC. 20. They shall carefully and thoroughly investigate all meritorious acts occurring within their divisions, make reports thereon to the Board of Merit, through the regular channels, stating members' full names, ranks and companies, whether the acts, in their opinion, were in the line of fire duty, and worthy of official recognition. They shall specify, in their recommendations, the degree of award, i. e., Class I, II, III or Service Rating A or B. (See Appendix.)

The original reports of all members must accompany the reports of Deputy Chiefs upon meritorious acts. Grade of merit shall be determined by the degree of personal risk or effort shown in the saving of human life, or in the assistance thereof, in the line of fire duty by members.

SEC. 21. They shall inspect, in their Divisions, all uniforms or parts thereof, before they are worn, and, semi-annually during April and October, inspect the appropriate uniform and equipment of all members. Summer uniforms shall be inspected between May 20th and June 1st in each year. They shall reject all not complying with the uniform regulations; brand all approved with the year of acceptance and registered number of wearer, as follows:

Coats, under collar; trousers, on front of waistband; caps, under visor. A record of such inspections shall be kept in each division headquarters.

SEC. 22. When inspecting new uniform clothing or parts thereof, they shall insist upon material of a grade, color and weight which will compare favorably with samples on file in the office of the Chief of Department.

SEC. 23. The senior Deputy Chief shall make inspections of the Battalions in their respective Division, in company with the Chief of each Battalion, during the months of April and October of each year. On such occasions they shall make a thorough inspection of quarters, apparatus ,tools, all appliances and devices used for life saving purposes, building inspection records, fuel depots and fuel wagons, and note the general condition of all Department buildings. They shall immediately forward a report

of any defects or deficiencies found to exist, condemning, when necessary, company property.

These inspections shall be made when companies are on a 24-hour period of duty. The off platoon shall not be held but shall be inspected during a subsequent 24-hour period of duty by either Deputy Chief, at which time only the clothing and equipment of members shall be examined.

SEC. 24. They shall be held responsible for the proper enforcement of all orders relating to the inspection of buildings in their respective Divisions.

They shall, with the Chief of Battalion immediately concerned, promptly investigate reports of dangerous conditions, and report thereon.

SEC. 25. They shall hold Chiefs of Battalions under their command responsible for

(1) Promptness in the discharge of their duties, and for the condition and efficiency of companies under their command,

(2) Any neglect in carrying out fully and minutely the uniform regulations,

(3) Strict compliance with, and the application of, every order, rule, law and ordinance governing the uniformed force.

When they learn of any violation or dereliction they shall report it to the Chief of Department.

SEC. 26. They shall examine all communications forwarded through their office, and, when necessary, make an investigation and report.

SEC. 27. They shall have power to detail Officers and Engineers of Steamer from one battalion to another, for a single period not exceeding twenty-four hours duration. In all such cases they shall promptly report to the Chief of Department the reason for such detail.

Chiefs of Battalion

SEC. 28. They shall supervise the inspection of buildings in their respective districts; see that all orders relating thereto are strictly adhered to, and examine, from time to time, the building inspection records in each company quarters.

Where an unusual or dangerous condition is reported, they shall, accompanied by a Deputy Chief assigned to that Division, make an immediate inspection and forward a report thereon.

SEC. 29. They shall examine reports and communications affecting their command, and, when necessary, conduct an investigation.

They shall examine requisitions and, after an investigation, certify whether the repairs or supplies are necessary.

SEC. 30. They shall

(1) Be at their respective quarters, when assigned to duty, except when Department business requires their presence elsewhere.

(2) Respond to alarms and special calls, as provided by orders, and promptly report their arrival to the officer in command.

(3) Assume command, when first at a fire, and exercise complete control until the arrival of a superior in rank.

(4) Cause the prompt return to quarters of all companies not needed at fires or alarms.

(5) Take every precaution to prevent the rekindling of fires.

(6) Forward detailed reports of all fires occurring in their districts.

SEC. 31. They shall visit each department building over which they have supervision at least twice each week, and inspect the company journals, apparatus, hose, tools, implements, building inspection records, kitchens and all other parts of such buildings thoroughly and carefully. They shall then enter, over their signature in the Company Journal, the condition of everything as they find it.

SEC. 32. They shall be responsible for the condition, efficiency and manning of each company, making details of members when necessary.

The assignment of Captains to platoons shall be regulated so that adjoining companies will not have officers of the same rank performing duty at the same time.

When officers are assigned for instruction at the Fire College, they shall arrange details so that such officers may attend on off-tour periods.

SEC. 33. They shall immediately notify the Chief of Department by telephone, if he is not present, of important fires or extraordinary happenings in which accidents, deaths, or other unusual matters occur. In the event of animals being burned, they shall also notify the Department of Health and the American Society for the prevention of Cruelty to Animals.

SEC. 34. They shall, whenever loss of life, injuries to persons, or damage to property, may occur as the result of accidents at fires or alarms in their districts, or to members of companies in their battalions, immediately report thereon, by telephone, to the Telegraph Dispatcher, for transmittal to the Fire Commissioner and Chief of Department. They shall then make a careful and thorough investigation into the cause and report the result, embracing a list of persons killed or injured, and the damage to property, no matter how trivial. All such investigations shall be made immediately after the occurrence and a written report forwarded promptly.

SEC. 35. They shall cause the arrest of all persons apprehended transmitting false alarms for fire, and shall have the Department represented at the trial by a member of the Department.

SEC. 36. When first due at an alarm assignment, or when in command thereof owing to the absence of the Chief first due, they shall immediately transmit to the Telegraph Dispatcher, by telephone, a report of the alarm, as required by General Order No. 1 of 1925. Upon return to quarters they shall make a more detailed report, if necessary, followed by a written report giving full particulars.

They shall forward a report of any fire at which they perform duty, and use the Fire-Record Journal for the purpose of entering the particulars of all fires or alarms for which reports of operations are forwarded.

SEC. 37. They shall carefully and thoroughly investigate all meritorious acts occurring within their battalion districts, or with which any member serving in such district was connected, and report thereon through regular channels. Such report shall be accompanied by the original reports of all members upon the meritorious acts.

SEC. 38. They shall see that all rules, orders, laws and ordinances are strictly observed by companies within their battalion districts, and shall be responsible for any dereliction of duty resulting from failure to observe this rule.

(To be continued)

Chief Kratz of Manitowac, Wis., Retires

Chief J. H. Kratz of Manitowac, Wis., has retired with a pension of $1,100 following twenty-three years service as head of the fire department, and fifty years service as a fireman.

He joined the department as a volunteer fireman on December 9, 1875 and he has filled all the positions with the honor of being the first full-paid captain.

He is seventy-three years of age and feels that he should step aside to enable a younger man to serve the community in this capacity.

Chief J. H. Kratz, Manitowac, Wis.

Coronado, Cal. Fire Department Resigns

Following a political dispute over the appointment of a city manager, the chief of the fire department of Coronado, Cal., and all of the members of the fire department with the exception of three were discharged, and later in the day the balance of the department resigned thereby leaving the city without any fire protection.

The wrangle affects more than the fire department—it resulted in a fist fight between the new city manager and the city auditor, the discharge of several political officials and the disruption of the police force.

As the result of the squabble, Chief George Sanven was given forty-eight hours in which to vacate his quarters that he and his family occupied in the fire station. Many of the men and the public were incensed at the act of the city authorities in ordering the personal property of the chief on the street, and the balance of the department—the three men who were not discharged—resigned in a body thereby leaving the city without fire protection.

It was feared that the cancellation of the existing fire policies or the increase of the insurance rates would be the result of the walk out and the discharge of the fire department.

Eden, Pa., to Purchase Fire Apparatus—New Fire Apparatus will be purchased by Eden, Pa.

Modern Fire Alarm Signalling

Punching and Inking Registers, and Time Stamps—Their Operation and Repair

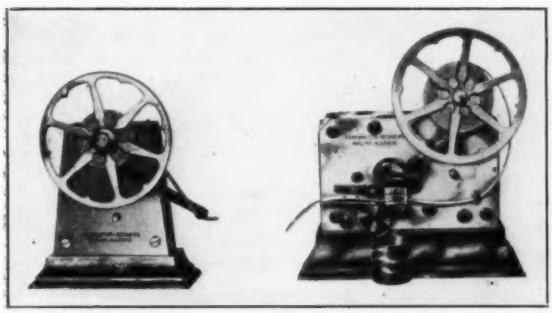
By E. W. KEIRSTEAD, E. E.

THIS is the thirteenth of a series of articles on the care, installation and repair of various phases of fire alarm work. The author has had practical ekperience in this field, and he will answer questions on this subject that are submitted to him by the readers, free of charge. The only condition is that a stamped envelope must be enclosed for reply.

Description of Registers

There are several types of puncturing registers made at the present time and the ones most suited to the recording of fire alarm signals are of the puncturing type. It was found several years ago that the inking registers were unsuited for fire alarm work owing to their unreliability, and when most wanted they failed to operate properly. The main reason for getting away from the inking register was to avoid an incorrect or mutilated signal. The register needed a special type of ink and if inked too heavily left a continuous line on the tape.

The puncturing type of register leaves a clear cut and unmistakable record in the tape. They are made in two types, namely, the round punched hole and the arrow shaped hole—the arrow pointing in the direction the signal should be read. The round



—Courtesy Harrington-Seaberg Corporation.

Fig. 32—Punch Stamp and Take-Up Reel

hole type has the disadvantage of when rolled up and stored away for a time, it is possible to read the signal backwards. Number 549 may be read 945, etc.

The round hole punching register punches a piece out of the paper tape, which is received in a receptacle attached to the side of the register. It is necessary to remove the waste at certain periods. The later type does not punch a piece from the tape but simply cuts the forward part of the arrow, the remainder being turned back by the forward movement of the tape. Owing to this advantage when ordering new registers it will be well to order one of the new type.

The registers are made in single or multiple circuit types of from one to five circuits being the standard. They are also, on request, supplied with the necessary time stamp contact by means of which the time stamp is operated. They are capable of operating at very high speeds of from twenty to six hundred impulses a minute. The register will feed forward about 140 feet of paper tape at one winding but they should be kept wound up at all times to insure safe operation.

These registers are manufactured in either the open or closed circuit type. The closed circuit register is wound for operation on a circuit of 100 milli-amperes; the magnets should not be placed in a circuit where the current flow is apt to drop at any time.

The open circuit register is intended to be operated by a local battery of from 20 to 24 volts and it generally depends on a relay for its operation.

The entire register is encased in a dust proof case and it is fitted with removable glass covers to allow for the ready access to the interior and to permit one to watch the operation of the register. The oil holes are also protected by metal covers to exclude any dirt or dust, and to keep the shafts and gears clean at all times.

The registers are generally supplied with what is known as continuity terminals. These allow the removal of the register without in any way interfering with its wiring.

The component parts of a register include the tape reel, punch and die, feeding mechanism, magnets, time stamp contacts, train work, governor, punching retainer, etc.

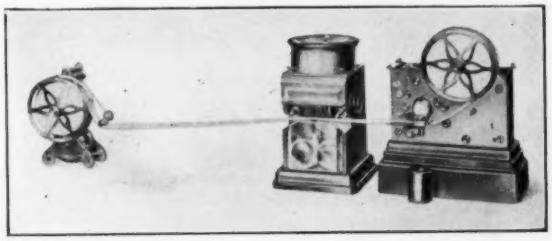
Operation of the Punches

When the relay operates or an impulse is given the register the armature is attracted allowing the punch to operate and punch a hole in the tape. After the hole has been punched the paper feeding mechanism will feed the paper ahead. When another impulse is given the punch is operated again and one more hole is punched—the paper moving forward again at the end of signal. The paper is fed to a predetermined distance and stopped, and the time stamp contact is at this time closed causing the time to be stamped on the tape. A certain amount of paper is fed out after the stamp has operated to allow one to see the time stamped. The amount of paper fed out after the last blow is generally three and one-quarter inches unless a request is made for an additional feed at the time of ordering from the factory. The paper feed is regulated by the adjusting screw in the paper guide plate which regulates the motion of the drop lever. Never touch this adjustment unless more or less paper is desired and be careful not to screw the adjusting screw down far enough to stop the register. The paper feed tension is adjusted to give a maximum amount of pull without interfering with the feeding of the paper; too much tension will stop the operation of the register. The feed should be adjusted so that it will properly feed the paper when the spring is nearly run down to the geneva stop.

The armature tension spring should not be adjusted unless you experience trouble with the register. Too much tension of this spring will result in double blows and punches of the register, and a little loosening of the spring will remedy this fault.

Installation of Registers

The registers are installed on either pedestals or some sort of shelf arrangement. If installed in engine houses they can



—Courtesy Gamewell Company.

Fig. 33—Punching Register, Time Stamp and Paper Take-Up Reel

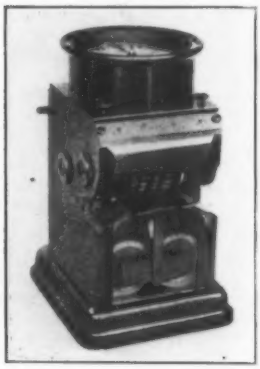
be placed on a desk or shelf near the watchman's station where it will be in view of the watchman at all times. The best method of installation is to have a set of continuity springs installed in the desk or shelf and all wiring should be brought up from the bottom to these spring blocks. It will be possible to remove the register for an overhauling without disturbing the wiring if use is made of these spring blocks. In Figure No. 35 a wiring diagram of a register and time stamp is shown and it is a very simple wiring diagram. The two wires marked "Register" are the main line or local wires from the relay depending on which type of register is used. They run to the register magnets and any opening of the main line circuit will operate the relay which will close the local circuit energizing the punch magnets which operate the punch. The time stamp contacts are shown terminating on the second and third studs on the register—one lead runs to the positive side of the battery through the time stamp contact and on to the pressing magnets marked 60W per pair, through these magnets, and on to the negative side of the line or battery. The local clock circuit also uses this battery and the contact in the clock closes the type magnets which are marked 400W per pair; this causes the type wheel to advance one position every minute. This

drawing is shown for a single circuit register. The multiple circuit register is wired practically the same using only one time stamp contact for the five or number of circuits used. The registers should set as square as possible in order to function properly. The paper reel is attached to the side of the register and the paper is run through the paper guides. It is necessary to raise the lever on the side of the machine to allow the paper to pass the feeding mechanism; after the paper is placed the lever should be restored to its normal position.

Do not install registers in an upside down position or at an angle of 45 degrees as they are not intended to operate in any other position than a horizontal one.

Oiling Registers

The register should be oiled according to the work it has done and when oiled, care should be taken to use oil sparingly. Kellys watch oil is the only oil recommended for punch registers and none other should be used. This oil can be obtained at the various factories where fire alarm apparatus is manufactured. Take an ordinary toothpick and dip it in the oil letting a few drops adhere to the pick. Place a drop or two directly in the bearing hole and wipe off all excess oil. Do not let any oil run down the side of the register. The little back caps on both sides of the register will have to be taken off to allow the oiling of the bearings, after oiling, replace the caps and screw down tight. Do not forget to place a drop or two in the small hole in the die as it is necessary to have the die lubricated. The detent and tripping levers should also be oiled very lightly and all oil wiped off the sides after the oiling has been completed. Using any other kind of oil than that specified will result in sticking punches and slow operation of the entire punch.



—*Courtesy Gamewell Company.*

Fig. 34—Time and Date Stamp Combined with a Clock

Troubles and Their Remedies

Punch does not operate.

Register switch off on board—set switch in proper position to correct.
Punch run down—wind up spring and test to check operation.
Punch stuck down in die—have die and punch sharpened and oil occasionally.
Local battery fuse blown—replace fuse with new one.

Punch punches double blows.

Armature spring too loose—tighten adjustment of the armature spring to correct.

Spacing of punched holes irregular.

Feed needs adjusting—adjust paper feed to correct.
Mainspring weak—replace mainspring. *Send punch to the factory.*

Feeds too much paper.

Adjustment of timing lever wrong—adjust spring on timing lever to correct.

Register stops and then starts.

Poor quality of paper—replace paper with register tape of good quality.
Battery weak—test and correct fault.
Bearings dry, need oiling—oil register.

NOTE: Test operation of register daily and wind after every alarm or once daily, depending on the amount of work performed by machine.

If register is sent back to the factory remove all glass covers and straps, replace the strap on the reel end and then wrap the register with paper. Pack the register in box allowing plenty of excelsior to be placed around it. Place tag on box giving type of machine contained, where from, and date of shipment. In the box with the machine enclose necessary directions and information concerning trouble, etc.

Time Stamps—Description

A time stamp is used for automatically recording the year, month, day, hour and minute an alarm is received and it prints the record on a paper tape in conjunction with a register. There are several types now manufactured some of which operate in connection with a master clock which controls several of these stamps. If desired a small master clock is mounted on the time stamp itself. It is electro-mechanically operated. The master clocks furnished with the time stamp has an eight day movement and should be wound once a week. Some types of master clocks furnished with large installations are self wound and wind once each hour. The main spring of the time stamp will operate for sixty hours but it should be wound once each day to insure good operation.

Operation

The master clock closes the electrical circuit once each minute energizing the magnet thereby releasing the detent of the minute wheel to allow it to advance once each minute. Each wheel is controlled by the wheel preceding it, that is the hour by the minute, the day by the hour, etc. The stamp will not require manual change to take care of leap years, etc.; it is constructed to take care of this condition. The year wheel will be usable to 1945 at which time a new wheel will have to be installed.

Installation of Time Stamps

Before these stamps are released from the factory they are given a test run under actual conditions and are ready for installation when received. When your time stamp arrives the box should be carefully opened and the parts unpacked. The stamp will be wrapped as a unit and the glasses will be separate. Remove the front and back brass straps and slide the two end glasses down with the bevelled side out. Next enter the paper guide in its grooves and push back to its stop pin taking care not to jam up the inked ribbon. This ribbon should be taut and can be made so by rotating the spindle knobs in opposite directions at the same time. Do not at this time install the top glass, if of the clock type raise the top and tip back. At this time wind and set the master clock to the correct time if not already running. When setting the clock always turn the hand forward to the desired number. Do not turn the hands backward. In the top center of the stamp will be seen the setting holes, and in the center of the spring bar the setting pin is secured. Take out the setting pin, being careful not to drop it into the mechanism, and place it in hole one. Operate the pin up and down until it stands at one. This has advanced

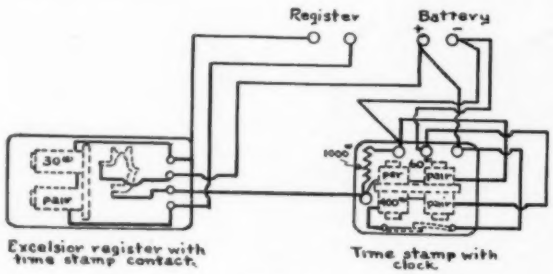


Fig. 35.

the minute wheel one for each operation; set the minute wheel to the right time. Next place the pin in number two hole and operate until the hour is right, then the day, the month and the year, or 3-4 and 5. After the stamp is set try it on the tape and check the time with the clock; they should coincide; and if the stamp does not give the correct time, it is not set properly. After the stamp is correct, return the pin to its position. If the stamp is cut off for a few minutes it can be brought back to the proper time by inserting the pin in number one hole and advancing the stamp to the proper time. If the stamp is fast the clock circuit should be opened for the time the stamp is fast or if only one stamp is fast it will have to be reset manually.

The stamps are usually mounted ahead of the registers the paper guides being in a direct line with each other. They are mounted the same as the registers and are provided with continuity blocks so as to allow the stamps to be removed at any time for repairs.

The ink ribbon is new when shipped from the factory and it should be held taut at all times. When the impressions become faint, the ribbon should be moved in a clockwise direction to place the unused ribbon in operation. Both of the spindles are moved to the right—even tension being placed on them both. Do not have the ribbons reinked as it will only tend to clog the type wheels and it will result in a mutilated impression.

The top paper should be placed and the paper run through it. The top cover glass should be slid into the grooves and

(*Continued on page* 1168)

WITH THE EDITOR

A Vicious Bill

A measure which met with defeat two years ago in the New York Board of Aldermen has again bobbed up in that legislative body of the metropolis. It is an age retirement bill, and seeks to amend Section 790 of the Greater New York Charter, so that the fire commissioner is given discretionary power to retire any member of the uniformed force of the fire department at the age of sixty-two years.

The vicious provision of this bill is to be found in the giving of discretionary powers to the commissioner to retire any officer or member of the department at the specified age. Such a measure, if it became law, would inject in the department the very thing that Chief Kenlon has so strenuously and thus far so successfully fought against—politics. It would open the way to dictation and influence from sources outside of the department, which would inevitably cause a lowering in the morale of the fire-fighting forces.

Under the provisions of the proposed act there would be nothing to prevent the dominant political party from "getting the scalp" of any officer—from the chief down, no matter how efficient—provided he had reached the age specified for discretionary retirement.

This would hold over the personnel of the department a menace which would be subversive to discipline and to the proper performance of its duties—especially in the case of officers and men who had reached the age of retirement and who happened to be of an opposing political party to the government then in power. A fixed age of retirement should in all cases be mandatory. Ample provision for retirement in case of disability is provided for in the present laws.

It is only fair to state that the present fire commissioner has had nothing to do with the introduction of this measure; in fact it is stated that Mr. Dorman would greatly prefer to have the provisions of a retirement law made mandatory, as this would relieve him of the rather embarrassing task of singling out the men marked to go.

Another point in this proposed measure is open to severe criticism. This is the setting of the retiring age at sixty-two years. Comparatively few men of good physical condition are ready to retire at this age, and furthermore the majority of such men can give their city excellent service as firemen for two or three years beyond. A case in point is the present head of the New York Fire Department. Certainly no sane man would suggest that he is a fit subject for retirement to the ranks of the "has-beens." The chief is in the hey-day of splendid mental and physical equipment, and with his vigorous personality, can well serve the city for several years to come. His loss, through this stupid piece of legislation, would be a calamity to the city and to the fire department.

It is to be hoped that this example of political legislation will be buried in committee, as it so well deserves to be.

An Unappreciative Fire.

A few days ago a fire started in the Paradise Amusement Park at Rye Beach, New York. At this particular time the Rye Fire Department was just completing its parade in full dress and members of the department were rushed to the scene of the fire all "dolled" up.

Reports do not state how many dress uniforms were damaged by fire and water nor whether the fire was at all impressed by such a natty brigade. But the fact that the buildings in the amusement park were completely destroyed shows that fire does not fully appreciate a well dressed department.

Incidentally, this fire emphasizes the necessity of providing a means for proper covering of fires when the department is away on parades or tournaments. It is becoming more and more a practice of small departments to come together with neighboring towns each year to join in conventions or tournaments. Prizes are frequently offered for the department having the largest number of men in line and occasionally for the department having the most apparatus on hand.

While this practice is mighty fine from the standpoint of enthusiasm, it does not improve the protection afforded the respective towns against fire. Fire occurring at a period when highways are congested and when all neighboring departments are at one point partaking in a tournament or parade may develop to dangerous proportions before apparatus can be brought to the scene.

In planning for attendance at department conventions or tournaments, make sure that means are provided for handling any fires while the department is away.

Prepare Now For Winter.

One month more and cold weather will be upon us. Now is the time to get busy and prepare for those hazards incidental to cold weather. Furnaces will be going full blast in all private houses, stoves will be forced their limit and make-shift methods of emergency heating will soon be at hand. If you intend issuing warning cards, now is the time to distribute them. A little trouble now in calling the public's attention to winter fire hazards may result in an appreciable reduction in

the fire loss of your city. Removal of rubbish from around heating plants in basements will go a long way toward reducing the number of fire calls you receive as a result of such carelessness.

If your department has sufficient personnel, a quick inspection of all basements in your city will prove a mighty fine means of heading off a lot of unnecessary fires and at the same time will emphasize the importance of fire safety to residents and occupants of business properties.

Your fire hydrants, too, deserve attention now. Have them all inspected to make sure that they are not leaky nor the barrels filled with water; also that they are in proper shape for quick operation.

The men you assign to inspecting hydrants should carry with them grease and they should use it on those parts of hydrants which require lubrication for easy operation.

Lay out your plans now, and get them under way before the first really cold day reaches you.

FIRE PATROL OFFICERS MEET WITH I. A. F. C. IN NEW ORLEANS

Many Interesting Papers Persented and Large Attendance Reported—To Meet Next Year in Portland

THE Officers Association of Fire Patrols, Salvage Corps and Protective Departments of the United States and Canada held a very successful convention in connection with the annual meeting of the I. A. F. C. at New Orleans, La., on October 20. The meeting was held in the Roosevelt Hotel and it was arranged so that the visiting chiefs could attend and then later inspect the convention exhibits.

President Schwank presided and presented a report of the year's activities. An application for membership was presented by the Nyack Fire Patrol of Nyack, N. Y., and final action on the matter will be taken at the convention next year. At the present time the membership is limited to the commanding officers.

Acting on the resolution presented by Superintendent O'Donnell, it was voted to give Superintendent Ruane, one of the two living past presidents of the association, some token of recognition.

Included in the papers presented were the following:

Illustrated lecture on the work of the Laboratories by Mr. Muldauer of the Underwriters' Laboratories.

"Fundamentals of Fire Insurance," by Roy Smith, president of the Underwriters' Salvage Corps of St. Louis.

"Sprinkler Equipment and Maintenance," by Superintendent O'Donnell.

"Salvage Corps Records and Statistics," by Chief Frank McAuliffe. A representative of the American District Telegraph read a paper on "Watching the Watchman." The paper was discussed by Chief Alex Henderson of Kansas City, Mo., and by Superintendents O'Donnell, Curran, Schwank and McAuliffe. Both Chief Murphy of San Francisco and Mr. Mallalieu made remarks flattering to the organization.

Beside the fire chiefs and salvage corps superintendents present, there were F. A. Wentworth of the N. F. P. A., W. E. Mallalieu, Ralph E. Richman, Fred Shepperd, H. K. Wilson, one of the directors of the "Fire Brigade," George Morley of the Gamewell Company and others.

The members re-elected James O. Schwank, chief of the New York Fire Patrol, as president, and John Ashmead, engineer of the National Board of Fire Underwriters, as secretary A large measure of the success of the convention is due to the work of Mr. Ashmead who is known as the "Ambassador" by the fire patrol chiefs and to whom the title "the Honorable" has been prefixed by the editor of the Underwriters' Fire Patrol bulletin.

Columbia, S. C., Firemen Receive New Uniforms—The firemen of Columbia, S. C., have received their new uniforms. They are of regulation blue serge made by a local firm.

TWO WELL KNOWN CHIEFS ELECTED TO CONGRESS WITH BIG MAJORITIES

Honorary Deputy Chief W. W. Cohen of New York and Ex-Chief Paul Moore of Newark, N. J., Chosen

HONORARY DEPUTY CHIEF W. W. COHEN of New York city and Ex-Chief Paul J. Moore of Newark, N. J., have graduated from the fire ranks and have advanced into political circles by way of seats in the U. S. Congress. Both of the men were selected by their districts with large majorities.

Ex-Chief Paul J. Moore.

The selection of Mr. Cohen was an outstanding feature of the New York city election. He was a candidate on the Democratic ticket in the 17th District, the district now represented by Ogden L. Mills, the defeated Republican candidate for New York governor. Two years ago when Mr. Mills sought the U. S. congressional election he defeated his opponents by a majority of 1,919; Mr. Cohen rolled up a majority of 5,113. The district is a gerrymandered district—that is, it has been divided up into an irregular territory with a view of keeping the district forever Republican. It has twenty-nine boundary lines from Greenwich Village to 86th street. This is the first time that a Democratic candidate has been elected to Congress from the 17th Congressional District.

Paul J. Moore, ex-chief of Newark, N. J., was elected to Congress on the Democratic ticket by a vote of 39,441 or a 10,147 majority. He represents the Eighth District and succeeds a Republican congressman. A large part of the New Jersey campaign was based on the dry and wet opinions of the Eighteenth Amendment. Mr. Moore is one of three Democratic candidates elected in New Jersey—the other nine Congressmen elected were chosen on the Republican ticket.

Hon. Deputy Chief W. W. Cohen.

Both of the men chosen are well known to those interested in the fire-fighting field. Mr. Cohen founded the Honor Emergency Fund in the New York city fire department in 1921 and Mr. Moore after leaving the Newark, N. J., fire department where he was chief, became a sales representative of the Foamite-Childs Company. The change to politics is novel and well deserved.

Naumee, Ohio, to Purchase Pumper—Plans are being made by Maumee, Ohio, for the purchase of a triple combination pumper.

QUESTIONS AND ANSWERS

"He that questioneth much shall learn much"—BACON

NOTE—Readers of WATER WORKS ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Finding Diameter of Nozzle Equal to Two or More

To the Editor:

If possible, will you oblige me by sending me a formula to take care of the substitution of two small nozzles for one large one, or vice versa. The table relating to this is on page 693, Table 8 of the Crosby Fiske-Forester Hand Book of Fire Protection. I am able to get some results in an odd way of my own but nothing that is very accurate. We were talking the subject over in the smoking room recently, and I told the boys that I would write and ask you. We will appreciate the trouble if you can oblige us.

W. T. F.
Boston, Mass.

Answer: The method of finding the size of a single nozzle which has the same carrying capacity as two or more smaller nozzles is as follows:

Square the nozzle diameter of each of the smaller nozzles; that is, multiply each small nozzle diameter by itself. Then add these products together. Take the square root of the sum so found and you will have the diameter of nozzle equal in cross section area to the areas of the small nozzles. After this has been done, find which standard size nozzle which is nearest in diameter to the diameter calculated, and this standard size nozzle is the one which is approximately equivalent from a capacity standpoint to the sum of the small nozzles.

As a specific case we will find the diameter of a nozzle equal to a 1½-inch and 1¼-inch nozzle combined.

Square the diameter of the 1½-inch nozzle and we get 2.25.
Square the diameter of the 1¼-inch nozzle and we get 1.56.
Add these two products together and we have a sum of 3.81.

Take the square root of 3.81, which gives us 1.952. This latter figure is the actual diameter of a single nozzle having an area equal to the area of the 1½ and 1¼-inch nozzles combined.

Now find which standard size nozzle comes the nearest to the 1.952-inches in diameter.

A 2-inch nozzle has a diameter of 2 inches. A 1⅞-inch nozzle has a diameter of 1⅞-inches or 1.875 inches.

The difference between a 1⅞-inch nozzle and the 1.952 diameter is .077.

The difference between a 2-inch nozzle and the 1.952 nozzle is .048.

Thus from these two figures it will be seen that the nearest standard size nozzle to the calculated nozzle diameter is the 2-inch nozzle. Hence a 1½-inch nozzle and a 1¼-inch nozzle combined is approximately equivalent to a 2-inch nozzle.

The same method is employed where nozzles of a like size are being combined into a single nozzle. In this case each nozzle diameter is squared and the sum of the squares added; the square root of this sum is then taken which gives the diameter of a nozzle having an area equal to the sum of the areas of the small nozzles.

Following this the nearest standard size nozzle to the diameter so calculated is determined, and this standard size nozzle is the one which is taken as the equivalent of the areas of the several small nozzles.

Capabilities of 6-inch Main

To the Editor:

The question has arisen as to how much water we can take from a 6-inch main without drawing the water from the water backs and tanks in the nearby homes.

The main is 6-inch and the lead in to the hydrant is 4-inch. Our pressure is 70 pounds.

With a 500 gallon pumper hooked to a 2½ inch outlet on the hydrant would it be possible to create a vacuum which would draw the water from the water backs and boilers in homes connected to the main?

With a 500 gallon pumper hooked to a 4-inch outlet on the hydrant would it be possible to create a vacuum which would draw the water from the water backs and boilers in the homes connected to the main?

If so, what would the vacuum be in each case?

Your answer to these questions will indeed be appreciated.

Very truly yours,
H. S. A.
Hyde Park-on-Hudson, N. Y.

Answer: Where the pressure on your system is 70 lbs. it would be very unlikely that one or even two engines could create a vacuum in the system where the hydrant is connected to a 6-inch main. Unless the 6-inch main was a dead-ended one of great length to the point where it receives its supply, it could be figured upon to furnish several good streams. To be specific the following figures are quoted: A 6-inch main supplied at one end and with the source of supply 500 feet distant can supply five engine streams of 250 gallons per minute each, where the hydrant pressure is only 45 pounds. If the distance to the source of supply is 1,000 feet it could supply four 250 gallon streams; if 1,500 feet to the source of supply, three 250 gallon streams; if 2,000 to source of supply, two 250 gallon streams. But where the pressure is 70 pounds you could expect a much greater discharge from the hydrant and you could draw the water through a much greater length of main before a vacuum would be created.

In the event that the 6-inch main was cross connected on both ends the following figures would apply:

If the distance between cross connections on a 6-inch main is 500 feet, the main could be depended upon to supply seven 250 gallon streams where the hydrant pressure is 45 pounds.

If the distance between cross connections is 1,000 feet, it could be depended upon to supply five 250 gallon streams; if the distance is 1,500 feet, four 250 gallon streams; 2,000 feet, four 250 gallon streams; 2,500 feet, three 250 gallon streams.

In each of the above cases the hydrant pressure is assumed at the same figure, namely, 45 pounds. With this initial pressure on the system and with the flow given, the pressure at the hydrant when the flow was taking place would in each case be between 5 and 10 pounds. In other words, there would be this residual pressure at the hydrant during the period of flow.

Not knowing the distances between cross connections of mains in your city, it would be impossible to give you a definite answer, but assuming that your practices are the same as other cities of similar size, it will be safe to say that two pumpers could not create a vacuum at a hydrant if the pressure in the system was maintained at 70 pounds.

Somerville Questions and Answers

Following is a continuation of the reply to Question 4, *and the other questions asked at a recent examination in Somerville, N. J., with the answers thereto:*

Five substances in which spontaneous ignition frequently occurs are as follows: soft coal, powdered aluminum, charcoal, oily rags or waste (particularly where the oil is linseed oil), oilcloth, floor and table, in piles. (Oilcloth waste, particularly where it is made up of cork and linseed oil, is a rapid producer of spontaneous ignition.)

Question 5. Assume a fire under the following conditions. A block of three brick buildings, four stories in height, 40 x 80 feet, of open joist construction, used for general woodworking purposes. The buildings are connected to each floor level by doorways cut through party wall. These openings are protected by tinclad fire doors. There is a stairway in each building and a balcony fire escape in rear. A fire breaks out in the center building on second floor and upon your arrival with an engine company, has extended to third floor. A delay in the arrival of superior officer, places you in temporary command of the fire for fifteen minutes. State what orders you would give and how you would handle the situation until relieved by superior officer.

(Apparatus on first alarm assignment: you would have at

your disposal three engine companies and two ladder companies.)

Answer 5. Assume truck companies have at least four men each. Three men to go up in each building adjacent to the fire building and make sure that fire doors are closed; also move back inflammable materials from walls. Two men to the roof by stairs through either building to open up skylights, or provide ventilation otherwise.

If fire has gotten into either of adjoining buildings, send in second alarm immediately.

First company lay two lines, one to a deck pipe of wagon (placed just across the street from building) and second up stairway. Operate deck pipe just long enough to kill fire at front of second floor and at front of third. This will prevent fire from extending to fourth floor by way of the front windows.

Second company follow first up stairway.

Third company operate from rear fire escape.

While the contents or the building are highly inflammable, the building is not large and there are not apt to be partitions, so that the streams will have full sweep of the floor. When members of truck company are free, assign them to assist second and third engine companies in getting second lines in operation.

It is assumed that as the above type of structure is apt to be found in the industrial section of the city, there will be sufficient hydrants (as well as water supply) at hand.

Second line from second company may operate from ladder at front of building into third floor, while second line from third engine company will assist line at rear.

Question does not state exposures, so that it is assumed that no serious exposure exists.

Question 6. What are the dangers in fighting fires in buildings where the following are stored? Tanks containing ammonia, oxygen and carbonic acid gas. What effect has each on fire?

Answer 6. The chief danger of fighting fire in a building wherein ammonia is stored is the possibility of explosion from leaking ammonia, the bursting of tanks when heated, and the danger of asphyxiation of men operating at fire, and of tenants in the building. Where there is dense ammonia atmosphere it is absolutely necessary that all parts of the body be protected, for the ammonia fumes produce serious results when coming in contact with delicate portions of the body. Ammonia vapor when stored in tanks in the form of liquid exerts a pressure of about 145 pounds per square inch. As the temperature around the tank is increased this pressure increases in direct proportion to the temperature and a point can be reached when the tank will burst or open up from internal excess pressure. This is one reason why it is so essential to use large quantities of water in ammonia fires or in fires where ammonia is stored in tanks—to keep the temperature, and, incidentally, the pressure, down.

The chief danger in connection with stored oxygen is the bursting of the sealed drums containing oxygen when heated. As in the case of ammonia, when the oxygen is heated the pressure within the tank is greatly increased, and if the temperature increases sufficiently the tank will eventually burst.

Another hazard in connection with the oxygen is the intensity of fire which it produces when freed around burning material. Oxygen is necessary for combustion and when present in its pure state makes a fire very intense. Even steel will burn briskly in an atmosphere charged with oxygen.

The main hazard in connection with carboic acid is the possibility of the drums bursting when heated, as in the case of oxygen and ammonia. It has one advantage, however, that when a tank or drum does burst the released gas actually acts as a fire extinguisher and instead of making the fire more intense it decreases the intensity of the fire by smothering it.

Air highly charged with carbon dioxide will not support combustion nor will it support human life, so that when fire is put out by carbonic acid gas being freed (or this carbon dioxide, so called), the atmosphere will no longer support human life and proper smoke or gas protectors must be used.

To sum up the second part of the question, ammonia may cause an explosion when mixed with air. Oxygen causes the fire to increase greatly in intensity. Carbonic acid gas actually acts as an extinguisher.

Question 7. Explain in detail how you would open sliding locked double doors with glass panels. (b) Large sliding double doors fastened with a bolt. (c) Remove the bars at windows set in masonry.

Answer 7. (a) The double sliding doors are usually found in mercantile and industrial establishments and are generally locked on the inside. If the doors are fastened on the outside with a padlock the operation is a simple one. Care should be exercised in endeavoring to open up, not to break the glass panels in the doors unnecessarily.

To open padlock—the lock can either be twisted off with the claw tool by inserting the point of the tool in the bow of the lock, or in the staple, and swinging the handle of the tool around, or by forcing the fork of the tool over the bow of the lock or staple and twisting likewise; or the lock can be broken or sprung by bracing the bow of the lock against the hasp or staple and striking the body of the lock with the back of the axe. Where the padlock is on the inside of the door, which is not frequently the case, the staple can be driven out by using the punch and back of axe. First locate the points of the staple where they come through the door and then drive the punch directly between them. The point of the punch comes out of the door on the under side of the hasp and carries the hasp with staple away.

If locked by other means on the inside it will be necessary to drive the blade of an axe in just below the fastening and unhook, or break, the fastening with another axe, a cutting tool with maul or axe may also be used in opening the doors.

(b) Opening up double sliding doors with glass panels and which are secured with a bolt can be carried out in precisely the same manner as described in the above paragraph. In this case it will be necessary to break the bolt. First drive an axe in between the two doors, locate the position of the bolt and insert punch or cutting tool, driving same through and breaking with the back of another axe.

As before care should be observed not to break the glass panels unnecessarily.

(c) The method of removing the bars depends upon their size and setting. If bars are small they can be driven to one side with an axe or sledge, pulling themselves clear of the holes. Or they can be cut with hack saw or oxy-acetylene torch.

If the bars are set in the stone sill but a short distance from the face of the stone, the stone can be broken with sledge or axe and bar freed that way.

On the other hand, if bars are large in size and set well back in sill then the oxy-acetylene torch is the only practical method of removing bars.

(To be continued)

Columbia, Pa., Forms Firemen's School—A committee has been named to consider the formation of a firemen's school in Columbia, Pa. Chief William L. Miller has left the matter in the hands of a committee of the various fire companies.

New Jersey Enforces Forest Fire Prevention—A number of the southern counties of New Jersey have prepared to enforce legislation that would tend to prevent forest fires. The section had very serious forest fires last spring.

One of the Girls Advertising the "Fire Brigade" | Chief J. J. Towey, Newark, N. J. | Helen Wilcox, Chattanooga | F. E. Larkin Secty, Larkin Fire Equipment Co. | Mrs. B. J. Houston, Cincinnati, Ohio. | W. F. Hilker, pres., Signal Shirt Co., Racine

They Were All Rooters for the Convention at New Orleans.

Concealed Spaces Need Early Attention

Failure to Make Prompt Inspection Frequently Results in Extension of Fire—Suggested Method of Handling Fire

OCCASIONALLY conditions are such at a fire that a change in the method of operation may make no appreciable change in the result. This is especially the case where a fire occurs in a small city in an establishment which is of a highly combustible nature.

With limited apparatus and the fire having a good start there is little to do but to cover exposures. This latter point is one which must be given first attention and great thoroughness must be exercised in making sure that all channels of extension are blocked.

In the fire described in the last issue of this journal the fire loss might have been curtailed had such precaution been observed.

As noted in the description of fire, the department consisted of three engine companies and one ladder company, the latter equipped with a city service truck.

Engine Co. No. 1 had a 500 gallon triple combination; Engine Co. No. 2 a 500 gallon triple combination and Engine Co. No. 3 a 750 gallon triple combination.

The water supply was good throughout the fire and four hydrants were available for use by engines; Hydrant A—200 feet from the fire, Hydrant B—380 feet from fire, Hydrant C—420 feet and Hydrant D—450 feet.

The occupancies of the fire building and adjoining buildings are given in the description of the fire in the last issue of this journal.

The Fire

A brief review of the fire, however, will not be amiss at this point.

It was discovered at 7:10 in the morning and when the department with Engine Companies Nos. 1 and 2 responded, both floors of the brick section of the factory were fully ablaze

The department placed Engine Co. No. 1 at Hydrant A (instead of Engine Co. 3 at Hydrant C as stated in the original description of this fire) and a single line was stretched to operate on the fire from the front of the brick building. 1¼ inch nozzle was used. Engine Co. No. 2 was stationed at Hydrant B and a single line was stretched to the roof of the meat market to operate through the second floor windows onto the fire.

Engine Co. No. 3 was stationed at Hydrant C and a single line stretched through the meat market to the rear of the brick building to operate on the fire at this point.

After operating for awhile in this manner the fire was discovered passing through the cock loft of the meat market, shoe store and the other one-story structure. This made it necessary for the line to retreat to a point of safety.

The chief ordered a second line stretched from Engine Co. No. 3, this line going to the front of the building to operate in covering the barber shop and also in controlling fire on the second floor.

The fire continued to spread rapidly and soon involved the three one-story buildings, also extending to the frame portion of the factory. It also entered the barber shop and general store.

The entire group of buildings shown in the sketch were destroyed before the fire ceased its progress.

Suggested Method of Handling the Fire

If, as reported, both floors of the brick portion of the factory were fully ablaze when the department arrived, the department did not show the best of judgment in attempting to extinguish the fire in this highly inflammable occupancy with the limited apparatus on hand. At this point, it is assumed that apparatus from adjacent towns would not be readily available to operate on this fire.

The lines available from the three engine companies would hardly be sufficient to attempt to extinguish the fire and at the same time cover exposures. It would have been far better practice to have assigned all attention to covering exposures and permit the fire to continue to burn until such time had arrived that the lines covering exposures could close in on the fire.

The point of first importance would be the covering of exposures and of secondary importance operating on the fire. Both of these could have been accomplished at the same time. For instance covering the exposure of the meat market with a line would not require the entire time of this line which, in interval, could be operated on the fire.

Likewise the line or lines operating to cover exposures at the rear of the brick portion of the factory could be operated on the fire from time to time, as well as the line covering the barber shop.

If this method of operation would not have extinguished the fire in the factory, it would at least have kept the fire from increasing in intensity and would permit it to burn itself out under the check of the streams.

Assuming that the fire had gained such proportions that an attempt to extinguish it would be inadvisable at the start, the assignment of apparatus would be as follows:

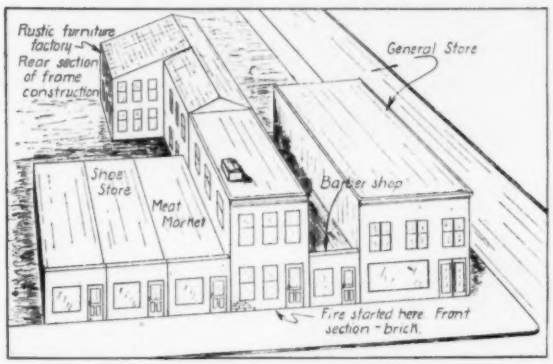
Engine Co. No. 1 at Hydrant C and a single line stretched to the rear of the brick building to check fiire from extending to addition. This line should be equipped with 1¼ inch nozzle, of the shut-off type if available.

Engine Co. No. 2 at Hydrant B and a single line stretched to the roof of the meat market to cover the exposure at this point and to operate on fire.

Engine Co. No. 3 at Hydrant C and two lines stretched to fire, one going to the roof of the barber shop and the other operating from the street at the front of the building, to be shifted to the stores on either side if necessity calls for this movement.

These two lines from Engine Co., No. 3 should be equipped with with shut-off nozzles to make possible the easy shifting of lines from point to point.

Members of truck company should be assigned to inspection work and assisting engine lines. Make sure that men assigned to inspection cover buildings on both sides of the fire building



and keep on a continual lookout for evidences of fire passing through the wall of the factory. It is due to this movement of the fire that the three one-story stores were involved. Men assigned to inspection work should be instructed to open up the plater walls or ceilings if there is any evidence whatsoever of fire. Inspection should also be made of basements of buildings on both sides of fire building.

By surrounding the fire in this manner the possibility of its extending in any direction would be checked and at the same time streams may be operated on the fire to check its increasing intensity.

This method of operation would at least save the buildings around the fire building if not capable of bringing the fire under control in the fire building.

Hackensack, N. J., Firemen Ask for More Pay—The people of Hackensack, N. J., will vote on the question of granting the firemen an increase in pay. Last year the proposition was brought up but the matter was defeated.

Signs Posted in Texas Forests—About one hundred and fifty large metal signs have been posted in the woods about Tyler, Tex., warning of the dangers of forest fires. It is estimated that about eighty per cent of the fires in these woods are the results of carelessness.

Mother of T. Howell Johnson, Dies—Mrs. Sallie Ward Johnson, mother of T. Howell Johnson, of Bloomfield, N. J., the treasurer of the New Jersey Fire Chiefs' and Firemen's Associations, died at the home of her son at the age of ninety-two. She was a life-long resident of Bloomfield.

Much Accomplished at Chief's Convention

(*Continued from page* 1146)

lution was offered and adopted to the effect that a memorial building and fire department bureau be considered, to be maintained by the association as a site to be secured in a city to be selected later on. In order that the subject receive thorough consideration a committee was appointed consisting of three members whose duty it will be to devise ways and means for raising the necessary funds for the establishment of this project.

Future of the Association Discussed

At a luncheon held Wednesday noon by the officers of the association, and including heads of various organizations interested in fire prevention, the future work of the association was outlined. Among the speakers were the President, James Armstrong; incoming President, Chief Thomas R. Murphy; Second Vice-President, Chief Ross Davis; Franklin H. Wentworth; W. E. Mallalieu; and representatives of various international commercial organizations.

Jay Stevens told of the work already accomplished and the big plans for the future, emphasizing that the association was now on the threshold of the period of its greatest activity. He

A Very Popular Scene at Havana

Now tell the truth—arn't you sorry that you did not follow the "Eastern Regulars" to the Western Hemisphere Oasis.

emphasized the necessity of all working together in a cause of common interest, and expressed his belief that the coming year will be a banner one for the cause of fire prevention.

State Vice Presidents, 1926-27, Appointed at Convention

Alabama—J. L. Akin.
Alberta, Canada—William Hardy.
Arizona—W. J. Nemeck.
Arkansas—Chas. S. Hafer.
British Columbia—James Carlise.
California—D. J. Nooman.
China—M. W. Pett.
Colorado—P. J. McCartin.
Connecticut—Timothy J. Fitzgerald.
Cuba—Ricardo L. Azcareta.
Delaware—Wm. J. Lutz.
District of Columbia—George S. Watson.
Florida—H. R. McMillan.
France—P. Vanginet.
Georgia—John Kennedy.
Hawaii—Charles H. Thurston.
Idaho—A. B. Canfield.
Illinois—Edward Platt.
Indiana—J. Hutzel.
Iowa—Ray Tiller.
Japan—S. Doi.
Kansas—A. S. Brownwell.
Kentucky—E. E. Cureton.
Louisiana—R. A. Bogan.
Maine—O. T. Sanborn.
Manitoba, Canada—A. Buchan.
Maryland—R. C. Hoenicka.
Massachusetts—W. F. Daley.
Michigan—A. M. Jaeger.
Minnesota—Ben E. Bangerten.
Mississippi—L. V. Donevan.
Missouri—Chas. Ault.
Montana—A. Baker.
Nebraska—Louis Hansen.
Nevada—R. B. Houcroft.
New Hampshire—A. W. Spring.
New Mexico—R. Henderson.
New Jersey—F. Decker.
New York—Jos. P. Sullivan.
North Carolina—H. E. Nisson.
North Dakota—James Southerland.
Nova Scotia and New Brunswick—J. W. Churchill.
Ohio—Thos. J. Gough.
Oklahoma—S. C. Boaz.
Ontario—C. J. Defields.
Oregon—Thos. Carlom.
Panama—E. Vallarino.
Pennsylvania—Richard T. Timmins.
Philippine Islands—Wm. A. Doyle, Manila.
Quebec, Canada—R. N. C. Harrington.
Rhode Island—Robert Browning.
Saskatchewan—W. A. White.
South Carolina—P. E. Donnald.
South Dakota—W. A. Sloan.
Tennessee—W. R. Meers.
Texas—W. J. Springer.
Utah—W. Knight.
Virginia—F. Pettia.
Vermont—F. G. Gebring.
West Virginia—Ed. A. McGranahan.
Washington—Harry Haukins.
Wisconsin—P. B. Steinkellner.
Wyoming—Oscar Hiestand.

Eastern Regulars Have Interesting Trip

The "Eastern Regulars," numbering about 150, left New York the Saturday previous to the convention and enjoyed a pleasant two days journey to New Orleans, stopping at Atlanta, Ga., and other points enroute. Arriving at New Orleans on Monday morning at 9 o'clock, they had plenty of time at hand for resting up a bit before the beginning of the activities.

Following the close of the convention, seventy-two of the party embarked on the United Fruit Company's steamer "Cartago" for a two days' sail to Havana, Cuba. The trip down through the Mississippi delta was most interesting and delightful gulf weather was appreciated by all. The boat arrived at Havana three days after the hurricane had passed over the West Indies. Thus the delegates had a chance of seeing the terrific havoc wrought by a tropical cyclone. While it interfered somewhat with seeing the city and surrounding country, it nevertheless gave the "Eastern Regulars" an opportunity of seeing at first hand the appalling damage incidental to a hurricane. After remaining in Havana for three days, the party boarded the United Fruit Company's steamer "Pastores" for a

On the "Pastores", with the Eastern Regulars.

Col. R. L. Patterson (left) and Chief August Gerstung of Elizabeth, N. J., felt fine with their dollar straw hats, bought at Havana; but the crowd thought they were a little out of order as the boat approached N. Y., as the second picture shows.

three days' sail to New York where they arrived Sunday afternoon.

The trip homeward was particularly delightful for the ocean was placid the entire trip.

Mr. Frederick E. Benson, of 50 Church Street, New York, who has conducted the "Eastern Regulars" on their trips for the past several years, deserves great credit for the excellent manner in which the party was handled. The increasing number of fire chiefs and others interested in the field of fire fighting joining the "Eastern Regulars" each year speaks volumes for the way the trips are arranged.

On the cargo deck of the "Cartago" somewhere in the Gulf of Mexico

Some of the party lined up in front of the President's Palace at Havana

Plenty of time to rest up. On board the "Pastores" en route to New York

With Fred Benson's "Eastern Regulars" on Their Havana Trip.

Howard-Cooper to Represent Eureka Hose

Appointment of the Howard-Cooper Corp. of Portland, Ore., to represent the Eureka Fire Hose Co., in the Pacific Northwest, has just been announced by Joseph H. Green, Vice-President of the Eureka Company.

The territory embraces Washington, Oregon and Idaho, which Howard-Cooper will cover through their branch offices at Seattle, Spokane and Boise, Ida., as well as the main office at Portland.

Under this new arrangement the Eureka office at Seattle, in charge of Herman Wise, is discontinued, and Mr. Wise becomes Manager of the Howard-Cooper Fire Hose Dept.

Interesting Foamite Tests at I. A. F. C. Convention

An interesting series of tests were conducted by the Foamite-Childs Corporation at the I. A. F. C. convention at New Orleans. One of the tests consisted of spraying soda and acid on one frame of cheese cloth, and Foamite on another frame and then subjecting them to a gasoline fire. Pits were dug and filled with oil and gasoline. The inflammable contents were ignited and later extinguished by the use of the foam appliances. From left to right the illustrations are, start of gasoline fire; pit full of gasoline burning freely; foam being applied to the flames; the pit with flames extinguished.

Anti-Combustible Roofs

The solution of the wooden shingle roof problem is of interest to all. Some cities have safeguarded themselves against this menace, and are reaping the results in the way of lower fire insurance rates. In writing to FIRE ENGINEERING on this subject, A. B. Horney, chief of the fire department at High Point, N. C., announces that, with the aid of the deputy fire warden of that State, he has secured the passage of an "Anti-combustible Roof Ordinance" in High Point, as follows:

SECTION I—All buildings, except those specifically mentioned in Section II of this Ordinance, shall have roof coverings of standard quality such as:

(a) Brick or concrete surface.
(b) Clay or Portland cement tile.
(c) Tin or slate.
(d) Asbestos shingles 1-8 inch thick or thicker.
(e) Pitch or felt, built-up type, four or five plies gravel or slag surface.
(f) Asbestos-Asphalt, built-up type four or five plies. smooth or grit surface.

SECTION II—All of the following classes of buildings may be covered with coverings set forth above in Section I of this Ordinance or with standard Asphalt-Rag-Felt prepared or covering having equivalent fire-resisting properties when approved and labeled by the Underwriters Laboratories, Inc., Chicago, Ill.:

(a) Dwellings.
(b) Frame buildings.
(c) Buildings not exceeding two stories, or 30 feet in height and 500 square feet in area, and not used for factories, warehouses or mercantile purposes.

SECTION III—The top and sides of dormer windows shall be covered same as the roof, or with other material having equivalent fire-resisting properties.

SECTION IV—If a combustible roof is damaged by a fire more than 20 per cent, the entire roof shall be replaced with material specified in Sections I and II of this Ordinance. If a combustible roof is to be repaired more than 10 per cent in any one year, the same shall be entirely replaced with materials specified in Sections I and II of this Ordinance, except as specified in paragraph 1 of this section.

SECTION V—The Building Inspector shall have power to condemn and have removed any combustible roof that in his opinion is in such a deteriorated condition as to be excessively inflammable.

SECTION VI—Within twelve (12) years from the date of the approval of this Ordinance any and all roofs covered with combustible roofing shall be replaced with roof coverings, which comply with this Ordinance.

SECTION VII—All Ordinances or parts of Ordinances in conflict with this Ordinance are hereby repealed.

One of Chief Horney's pet ideas is to have the Boy Scouts organized into a fire-fighting force. In his town he has a troop of fifteen boys for whom he has secured badges which admit them within the fire lines. He uses them at fires in handling traffic, in salvaging property and in other capacities, and finds them very useful. The Scouts are located where they can watch flying sparks, and thus prevent other buildings catching fire.

CORRESPONDENCE

Test Drill Shows Efficiency of Small Massachusetts Department

To the Editor:

Through the courtesy of Chief T. Robert Quinlan of the Needham, Mass., fire department, I was recently privileged to witness a demonstration of efficiency in his department which shows careful training as well as intense interest and excellence of morale on the part of the members.

Although a member of the department for many years Chief Quinlan has only recently been appointed Chief and has inaugurated a rather novel method for testing the efficiency of the different companies.

Without previous notification to the company he proposes to test, he goes to some box to which that company responds on first alarm, lights two railroad fuses which burn red for ten minutes, then telephones to that company that there is an imaginary fire near a certain box. Time is then taken from the moment of notification until the company arrives at the scene of the fire.

To guard against excessive speed, and unbeknown to the company, a motor-cycle police officer follows the apparatus to the fire and reports rate of speed to the chief.

Ladder 1 made the run from Needham to the Elliott School a distance of two and one-half miles in 4 minutes and 47 seconds, and Engine 1, located at Needham Heights, made the run to the same school, a distance of one and one-half miles in 3 minutes and 35 seconds.

Taking into consideration that these companies were obliged to telephone their headquarters before leaving for the fire, and also that the routes traveled included several bad corners and a wet, slippery pavement, the time was considered excellent.

Fire drills were conducted at several schools as follows:—

Kimball School, 132 pupils, building emptied in 1 minute.

Elliott School, 135 pupils, building emptied in 1 minute and 5 seconds.

Avery School, 190 pupils, building emptied in 1 minute and 18 seconds.

Wm. Carter School, 355 pupils, building emptied in 1 minute and 23 seconds.

WALTER L. WEDGER,
18 Bellevue Road, Belmont, Mass., October 9, 1926.

L. to R.—Chief Richard Holme, Gross Point Park, Mich., Chief George F. Dansbury, Gross Point Farm, Mich., Chief James Armstrong, Kingston, Ont., (retiring president of the I. A. F. E.) E. C. Watson, American-LaFrance Co., Chicago, and Thos. R. Johnstone, Magirus Fire Appliance Co., Indianapolis, Ind.

L. to R.—back row, Chief W. J. Gates, Glens Falls, N. Y., Chief J. M. Sullivan, Utica, N. Y., Chief J. L. Murphy, Kingston, N. Y., Chief Cornelius Casey, Troy, N. Y.; front row, Dr. H. W. B. Stibbs and Chief Chris W. Noll, Poughkeepsie, N. Y., and Chief Jos. Golden, Cohoes, N. Y.

"A Moneyed Trio" L. to R.—Chief P. B. Carter, Collingswood, N. J., treas. I.A.F.C., Chief Matthews, East Orange, N. J., treas. Fire Chiefs' Association, Ex-Chief T. Howell Johnson, treasurer, New Jersey State Firemen's Assn.

Just a Few of the Groups That the Camera Caught at the Convention.

CHICAGO HAS TWO THREATENING BUSINESS FIRES IN A WEEK

First One Entails Loss of Over $125,000—Second Is in Building in Course of Being Wrecked

THE city of Chicago suffered two threatening fires within a week of each other, in the last half of October, one of which caused a loss of over $100,000. The first of these occurred on October 13 in the building of the Puritan Mills, Inc., in the northwest side of the city. This brick and wood structure occupied a space of 100 x 100 feet, was two and four stories in height, and had been built about forty years. The fire started, according to information received from Chief Thomas F. Maher, fire marshal of the Sixth Battalion, in the northwest corner of the first floor, from an unknown cause, and the alarm was given by the night watchman of the Puritan Mills, who discovered the fire. This alarm, which came into headquarters through an A. D. T., was relayed to Engine Co. 34 at 5:45, and at 5:47 the lieutenant of this company pulled box No. 419. At 5:50, Battalion Chief Maher sent in a 3-11 alarm, and this was followed by three specials, the first at 6:03, by

Chart Showing Lay-Out and Method of Fighting Fire in Puritan Mills Building.

No. 1 shows Puritan Mills Building; No. 2, the Eckhart Mill. Space south of Puritan Mill is 18" in width, that west of Puritan Mill, three feet wide. In abbreviations of engine companies, "A-F" stands for Ahrens-Fox apparatus, and "S" for Seagrave. Courtesy of Battalion Fire Marshal Thomas F. Maher, Chicago.

Division Fire Marshal J. P. Eagan, and the second and third by Chief Arthur R. Seiferlich, at respectively 6:10 and 6:31. This made a total of six alarms for this fire. The accompanying diagram, furnished through the courtesy of Chief Maher, gives a very clear idea of the lay-out and the method of fighting the blaze.

The apparatus in service consisted of ten Ahrens-Fox 750-gal. and 16 Seagrave 750-gal. pumpers; three Seagrave and three department shop-built aerial trucks; three White squad wagons; and one department shop built high-pressure wagon. The hydrants in use were Cregier double 2½ and 4" and Chicago, 4½", spaced in the east and west streets, 50, 150 and 400 feet and in the north and south streets, 300 feet. The pressure at the hydrants was 20 pounds and 24 engine streams were thrown during the fire. The nozzles were 1¼, 1½ and 2", and the number of feet of hose laid was 2½", 13,700, and 3", 7,500, a total of 21,200 feet. High pressure wagon turret pipes and siamese deluge sets were also brought into service.

Eight engine companies operated streams from the roofs of buildings west and south of the fire; three operated lines into high pressure turrets; eight operated lines into two-way siamese sets in street; three operated lines in street; two operated lines from fire escapes on fourth and fifth floors of building south of fire and northeast corner of building; two stretched lines into building west of fire, patrolling floors, but did not charge or operate lines; two hook and ladder companies and squad companies pulled engine companies' lines to roof; two hook and ladder

Unoccupied Building in Course of Being Demolished Destroyed by Fire in Chicago.

and squad companies patrolled floors of buildings south and west of the fire, and four hook and ladder and squad companies assisted engine companies to work in street and engaged in general truck work.

The total personnel at the fire, including chief fire marshal, three division fire marshals, two chiefs of battalion, officers and men, included 212.

The loss of the building, valued at $75,000, was $50,000, and that on the contents, general milling supplies, valued at $60,000, was $55,000.

Chief Seyferlich had a narrow escape from serious injury at this fire, when, just as he was ordering some of the officers and men to retreat from a dangerous position below a wall threatening to collapse, a brick tower, built a half story higher than the rest of the structure, toppled and the debris, including a heavy power pole, with high voltage wires, just missed the fire marshal. The men moved out of the way just in time, as the wall fell. One fireman was injured at the fire, but not seriously.

The second fire was in a building in the down town district formerly occupied by the Tobey Furniture Company, but which was vacant at the time of the blaze and was being torn down. The building was 125x200 feet and was six stories in height, and the fire originated from an unknown cause. The apparatus in service were nine Seagrave and fifteen Ahrens-Fox pumpers; one water tower; five truck and three squad companies. There were twelve 4½" double hydrants, one cistern and a high pressure standpipe in use. Some 2,700 feet of 2½ and 3-inch hose were

Blaze in the Puritan Mills, Chicago, in Which the Chief and His Men had Narrow Escapes From Falling Walls.

laid, and turret pipes and deluge sets were also brought into service. The loss at this fire was only $1,500, owing to the fact that the building was unoccupied at the time.

In referring to this blaze Chief Anthony J. Durkin, fire marshal of the First Battalion, writes: "This building, once owned and occupied by the Tobey Furniture Company, was being wrecked to make way for a new building. The fire was making such great headway upon my arrival that I immediately ordered a 4-11 alarm struck, followed in a few minutes by two special calls, each for five engine companies. On arrival of the engine companies the conditions were such as to hinder the firemen from going to work, due to the falling of bricks and cornices, and I immediately ordered companies to go into siamese, and to work siamese pipe; to stretch lines from high pressure inside standpipe system in the Peoples' Trust Building, and to place water tower, high pressure wagons and every other available apparatus around the burning structure, so as to prevent the fire from communicating with surrounding buildings, and to assist in extinguishing the blaze. As a matter of fact, this building, while occupied by the Tobey Furniture Company, was never known to have a fire, due to the company's strict compliance with the fire prevention laws and ordinances."

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

Week Ending Oct. 22

WATKINS GLEN, N. Y.—Watkins Glen National Bank building destroyed 180
HAMMONTON, N. J.—Glaterer Wire Works destroyed 25
NANN'S HARBOUR, N. C.—Yacht "Adventurer" of S. P. Bailey, New York, destroyed 180
COUPLAND, TEX.—Gin and Cotton Seed Warehouse 25
TULLOS, LA.—Five business establishments and three residences 35
CATSKILL, N. Y.—H. P. Duncan Storage Plant destroyed 40
MEDWAY, MASS.—Forester's Building damaged 50
HAVANA, FLA.—High School Building and auditorium destroyed 25
PITTSBURGH, PA.—Steamer "Steel Queen" owned by Pressed Steel Car Company destroyed 125
BIRMINGHAM, ALA.—Property of Black Diamond Company at Johns Mines 80
RIPON, CALIF.—Warehouse of Turnell & Larsen damaged .. 40
ATLANTA, GA.—Fiber plant of Fox Manufacturing Company destroyed 250
THORSBY, ALA.—Warehouse of W. A. Goodgame Company damaged 25
BESSEMER, ALA.—Property of J. C. Curry Company destroyed 50
LYNN, MASS.—Cabinet and Storage Shop of Campbell Brothers 30
CLEBURNE, TEX.—Building occupied by Kennard Grain Company 25
LUFKIN, Tex.—Several business establishments destroyed 40
GREEN BAY, WIS.—Warehouse of Miller Scrap Iron Company 30
DOTHAN, ALA.—Property of Southeastern Compress Company and Dixie Grocery Company damaged 175
Stables of John Sanders destroyed 60
MACON, GA.—Planing mill and lumber yard of Middle Georgia Lumber Company, Mikado Place 100
KENT, OHIO—Business block owned by Elmer Frank damaged 40
PREAKNESS, N. J.—Merchios Airdome and garage destroyed 50
INDIANA, PA.—Ellis Flour Mill destroyed 65
WOODSBORO, ME.—Building at plant of S. W. Barrick & Sons Co. 30
MEMPHIS, TENN.—Dry kilns of Chickasaw Wood Products Company 25
SAN FRANCISCO, CALIF.—Herring Lumber Co., Dean Reversible Window Co. and Vehyle-Collins Lumber Co. destroyed. Higgins Lumber Co. damaged 400
SMETHPORT, PA.—Service garage and 11 automobiles destroyed 30
AUSTIN, TEX.—Chemistry Building at University of Texas ... 255
DYERSBURG, TENN.—Upper floor of W. H. Fowler Building damaged 30
HAMMONTON, N. J.—Manufacturing Plant at Fisher, destroyed 50
ALTOONA, PA.—The High-View Hotel, Sandy Ridge Mountain 50
NORTH SALT LAKE, UTAH.—Plant of Utah Refining Company destroyed 50
CHICAGO, ILL.—Karl A. Judson Rubber Company destroyed .. 25
HUNTINGTON, IND.—Huntington Equity Exchange elevator .. 25
KLAMATH FALLS, OREG.—White Pelican Hotel destroyed ... 250
MADISON, ME.—Christopher Block (stores and office bldgs.) .. 40
MANCHESTER, N. H.—Building occupied by Desrochers Jewelry Co. and two other business establishments 80

Week Ending Oct. 29

ROCHESTER, MINN.—Garage owned by Philips & Jerome, destroyed 65
DURANT, OKLA.—Four stores destroyed, several damaged .. 65
FRIENDENS, PA.—Ross Pile Creamery Plant destroyed 25
VALCOUR, N. Y.—Home on Lake Champlain of Mrs. Wm. McCalmont Wilson of Franklin, Pa., destroyed 80
POMPTON LAKES, N. J.—Silk Manufacturing Plant of Henry J. Furler 60
CAPE CHARLES, VA.—Parksley High School destroyed 80
TAMAROA, ILL.—Postoffice and two adjacent buildings 25
EAST TAWAS, MICH.—Several stores in business district 60
AMBLER, PA.—Large barn on Fordhooke Farm, Butler Pike, east of Ambler, destroyed 40
WEST PALM BEACH, FLA.—Osborne Brothers grocery warehouse 25
OKLAHOMA CITY, OKLA.—Warehouse of High Test Oil Corporation 40
BEAUMONT, TEXAS.—Tanks and buildings at Sour Lake Oil Field 425
CHESTERTOWN, PA.—Home of Clinton E. Woods, Phila, Pa... 30
PROVIDENCE, R. I.—Apartment House on South Angell Street. 25
DAWSON, GA.—Peanut shelling plant of Southern Cotton Oil Company 65
PEQUOT, MINN.—Three business establishments 25
BEDFORD, OHIO.—Printing plant of Bedford Times destroyed. 30
TIPTONVILLE, TENN.—Property of Hale C. Tipton destroyed .. 25
MOHAWK, N. Y.—Warehouse owned by Henry Paul destroyed .. 40
SAN FRANCISCO, CALIF.—Oakland Paving Company Garage and adjoining property 50
KENEDY, TEX.—Building owned by Breeden-Runge Company .. 65
NEW ALBANY, OHIO.—Garage and storage house owned by J. F. Margarum destroyed 40
GAINESVILLE, FLA.—Plant of the Diamond Ice Company destroyed 180
LEWISTOWN, PA.—Woller Building damaged 30
FALMOUTH, MASS.—Home of A. H. Washburn, Kenauhant-on-Waquoit Bay 225

Courtesy, Manitoba Free Press, Canada

Fire Destroys Large Stables in Winnepeg, Canada

About two hundred horses were rescued from a fire in the stables of the Manitoba Cartage and Warehousing Company in Winnepeg, Manitoba, Canada. Within two hours the large stables were in ashes with a resulting loss of $120,000, and the cause of the blaze is attributed to defective wiring although the theory that spontaneous combustion was responsible, is believed plausible. The stable was constructed of brick with a wood roof and was but recently renovated. Many of the firemen had narrow escapes in fighting the blaze and three of the men received minor injuries. The roof collapsed just a few moments after the men hurriedly left the burning structure.

MIAMI, FLA.—Portion of building occupied by City Furniture Shops 30
BEAUMONT, TEX.—Business buildings and residences in vicinity of Washington and Trinity Sts 80
NORTHVILLE, N. Y.—Phillip Cohen Building, destroyed 25
ST. PAUL, MINN.—Plant of Twin City Brick Company damaged 60

Alling, of Underwriters' Laboratories, Dead

Claude Robert Alling, vice-president of the Underwriters' Laboratories, died in Evanston, Ill., following an illness of two weeks duration.

He received his college education from the Denver University, Northwestern University and Armour Institute of Technology; he graduated from the latter place in 1907 with the degree of Bachelor of Science. In June of that year he became associated with the Laboratories as assistant to the late W. C. Robinson. It was not long before he became familiar with the operations of the work, and when there was a vacancy among the officers, the Board of Directors elected him vice-president.

Mr. Alling was forty-two years old and is survived by a widow an infant son, his mother and several brothers and sisters.

Fireman Dies in Arms of Daughter—While responding on a fire apparatus to a fire, a fireman of Hanover, Mass., fell off the truck and was killed by the wheel of the apparatus that passed over his body. The daughter who was following her father to the fire in her car, saw the accident and rushed to his assistance, but he died in his daughter's arms before medical aid could be summoned.

COURSE OF INSTRUCTION IN FIRE PROTECTION

AS GIVEN AT THE UNIVERSITY OF ILLINOIS

SAFEGUARDING THE BUSINESS DISTRICT

By J. J. CONWAY

Superintendent, The Underwriters' Salvage Corps, Cincinnati, Ohio

THIS twenty-second installment of the University of Illinois Course in Fire Prevention continues the consideration of a very important phase of the fire-fighters work—the protection of the commercial section of the municipality. It is handled by one well qualified to treat the subject:

The Citizen Pays for the Fire Loss

In order to maintain their business the companies collect in each district as nearly as possible the fire waste, plus the expenses and plus a fair profit, so it is the public that is paying. When the shoe maker pays a premium on insurance he adds it into the shoes. It is added by the leather man. It is added in the tannery. It is added in the factory and in retail sales departments. The man that wears the shoes out pays the whole toll. The consumer is paying the toll all the time.

If the consumer would only realize these costs of fire prevention, fire protection, fire extinguishment and fire waste, which have risen to be over $500,000,000 a year and almost that much more paid in services for extinguishing—that is twice as much for your waste as it cost to build the Panama Canal! When you built your Panama Canal, or before you started to build it, there was something to do. Men could not live down there. They became victims of disease and what did the engineers do? They went in there and made it as healthy a place to live today as it is here. And so it is with fire-fighting. If we will remove the causes of fire, and of its spread, which are very simple and easy to control, we can cut down this heavy cost coming back to the consumer in everything he drinks, eats and wears, although he does not always realize it.

Lay Great Stress on Fire Prevention

As long as these conditions exist we have to combat them as best we can, but they are given every opportunity to flank us on every side and we are left as small a force with as little money to operate our department as possible. In Cincinnati we are operating with twenty-two companies, 182 men and 40,000 feet of hose, less than we had in 1916. That's due to taxes not permitting sufficient funds to maintain the department, but those are conditions over which we have no control and which we have to work with; therefore, throw your great force on fire prevention and throw the responsibility for those things that will cause a fire to get beyond your control on to the shoulders of those that are permitting them to remain. Do not allow yourself to be blamed if the fire occurs.

Importance of Ventilation

In fire-fighting years ago all one heard was, "Don't let any air in, don't let any draft in." That's the most insane idea in fire fighting there ever was. Get your ventilation. You cannot get to the fire until you do ventilate it. If there is an elevator going through the building with a pent-house on it, knock that off, knock the windows out in the upper part of the building and let it ventilate. We will say that was the elevator over there. If I could open the top of that elevator and this was afire I would not have more fire than fifteen feet on the side of that elevator; with the pressure I could come behind with my hose and put it out.

As long as I mushroom my fire keeping that gas in there, I am endangering my men from an explosion any time and I am throwing water into smoke instead of fire, so ventilation is an important thing in fire extinguishing. It took some of us old fellows a long time to get that in our heads. We kept saying to you, better to keep the draft away from it, but after a while we discovered we had some things to learn and that was one of the things. Ventilation is one of the most important things there is in fire-fighting. Therefore, if it is possible under the forces that you have, drill into your ladder truckmen that with ventilation, immediately after the pipemen come, they will put, the fire out with less cost, less damage faster and surer in every way.

I had a fellow say to me as we were talking about something, "You can not teach an old dog new tricks." He is far off the track. All you have to do is take the old dog and let him run with the puppies and he will learn new tricks.

Personal Liability for Fire Damage

Compared with foreign countries we must hang our heads in shame, as their per capita fire losses are so much less than ours. When you ask why it is, some will say, "better construction, better fire extinguishers," but there is nothing farther from the truth than that. They have no better construction than we have and not half as good a fire extinguishing force as we have, but they do this: They hold a man in those countries responsible for anything that occurs on his premises and damages his neighbor and we don't. We go out and condole with the man who has had a fire that could have been avoided. Instead of condoling with him we should hold him up before the bar of public opinion as a man injuring the public, unless he can prove he was in no way responsible for the fire. Until we do that we will have this same carelessness, this same indifference going on.

An Example in Fire Prevention

We had a fire in a village not far from our place. There was one large plant owned by the Pullman Palace Car company in it. One night this plant burned. Directly afterwards the company decided that they were going to take that shop to Pullman, Ill. There were 500 men skilled in a certain kind of work, cabinet makers, and there was no demand for that kind of work in that part of the country. Nobody took notice of it for a week or two. Then they commenced coming across the bridge. It cost fifteen cents to get out to the factories in other places and they had to work at some profession they were not skilled in for one-third the wages they had been getting for the high skilled labor. In another week the butcher shop, the baker shop and the savings associations left and then the town went up in a howl, asking adjoining cities to join with them and go to Pullman, Ill., and ask the Pullman Company to reestablish in the village. A payroll of $25,000 a week was lost to that town. That is what maintained them. The business men never realized that the destruction of that plant meant the destruction of their business and income. It is one of the most concrete examples there ever was that the loss comes back to everyone.

Appeal Direct to the Working Men

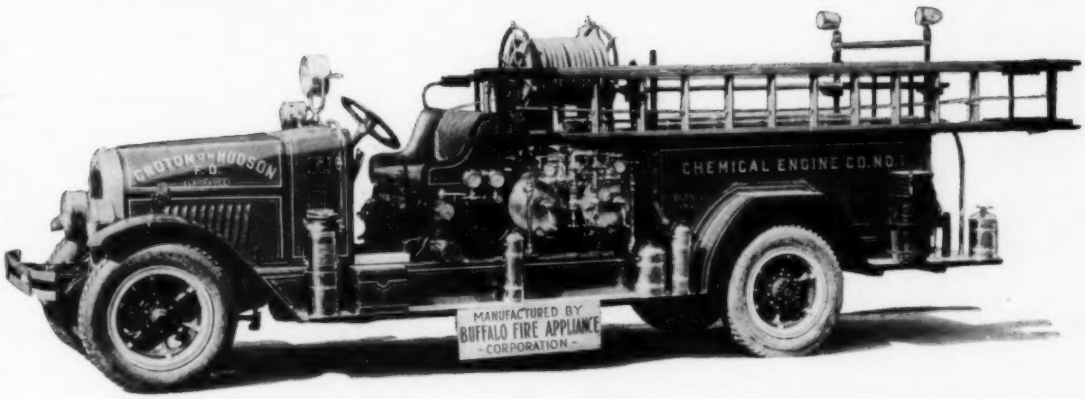
I keep a chart of one, five, ten and fifteen years of the hours of day that fires occur and my peak load is on after quitting time at night. My next peak load is on after quitting time at noon. The reason the heavy damage in dollars and cents is between ten and eleven at night is because these fires have been smoldering but are not discovered until late. I go before the working man and show him in his haste to leave the building he lights a cigar and throws the match away or that the leaves electric current on or something else undone, or does not do something he ought to and tomorrow he is out of employment. You have to find the cause. For years I pounded at all the commercial organizations, but I did not get any where because I was talking to the foreman, the superintendent, the owner or stockholder of the place. When I went back to the men they thought I was bringing to them something to restrict their liberties or increase their output. They said, "The hell with you." But when I convinced them, I reduced the loss from one of the highest ratios in the United States. Notwithstanding the reduction in fire extinguishing equipment, I have held it below the average, but this does not come from putting out fires; it is the work of getting people to help me prevent fires and getting men to realize that their employment depends on their doing that very thing; maybe not only their employment, but their own lives and the lives of their families depend on it. When I get the cooperation of the working men and people who do things in the factory, then I begin to get my fire losses down.

(To be continued)

Ex-Chief of Oak Park, Ill., Dies from Cancer—Walter C. Wolff, for seven years chief of the fire department at Oak Park, Ill., died at his home as the result of cancer.

Springfield, Ore., Has Veteran Chief—Zach Kintzley, the first fire chief of Springfield, Ore., and the only surviving member of the G. A. R., in that district, celebrated his seventy-ninth birthday.

BUFFALO



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because every piece of apparatus is designed by our experienced fire apparatus engineers in conjunction with the local fire officials to meet the specific requirement of the particular department or municipality making the purchase —and only the highest grade materials and workmanship go into the construction.

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BUFFALO FIRE APPLIANCE CORP.

Main Office and Factory, Buffalo, N. Y.

BUFFALO

WHY SIRACODE IS THE SEARCHLIGHT OF SOUND!

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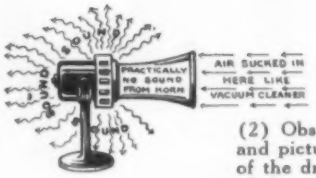
A Siren is Pictured Here



(1) Note that the so called "Horn" merely serves as an intake for air, emitting practically no sound! For this reason many manufacturers omit it completely on certain models. As a matter of fact it is more of a detriment than an asset.

(2) Observe how the sound is ejected through a number of port holes in all directions, and picture, if you can, what a large percentage of it is forced **backward** into the ears of the driver, and over the road already travelled, this increasing **greatly** with the speed of the vehicle! Do you wonder why they don't clear the way ahead?

Now Study The Construction of a Siracode

(1) Note that the rotor and stator are **Parabolic**, causing the sound waves to be **forcefully projected forward in the line of travel** where they are **wanted and needed.**

(2) Observe the scientifically shaped, and correctly proportioned deflector, which also **greatly intensifies the sound.**

(3) The specially constructed motors used for **SIRACODE** consume about **one third** the amperage of a siren of similar volume, **in short.**

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LAMP POST

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"The Erick Electric Siren Shrieks its call of danger to every nook and corner of your town—quick, sure and dependable."

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That's our method of proving the Erick Electric Siren to be the fire alarm you need in your town. Place it side by side with the best of all other sirens for 30 days and then be your own judge—decide for yourself whether you want to keep it or not.

"When fire is discovered, call Central from nearest phone."

The Erick is the only Siren using one big whistle on a powerful 3 and 5 h.p. motor which throws its sound evenly in all directions—louder and more penetratingly than all others. Many special features including special designed hood and screen that protects siren from rain, storm, and nesting birds.

"Central presses button connected to Siren."

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INDUSTRIAL PLANT PROTECTION

HOW CAN THE EXPENSIVE FACTORY FIRE BE AVOIDED?

Detecting the Fire Hazard in the Plant—Best Type of Construction—Testing of Fire Escapes Regularly

By K. D. HAMILTON, Plant Engineer, Brockton, Mass., and R. S. MOULTON, Asst., Secretary, National Fire Protection Association.*

IN this article, continued from last issue, the authors go into the care and supervision of electric and gas appliances, and emphasize the importance of guarding against the fire hazards involved:

I have covered at some length the common causes of fire in industrial plants. As I stated at the outset, good factory housekeeping is the manager's chief protection.

But building design plays an important part.

And while there is not space to take up the many important precautionary steps in construction, I shall indicate some of the factors that make for fire protection.

What Type of Construction Should Be Adopted?

In building a factory, owners must decide whether to adopt the light-frame construction, the slow-burning type, or the reenforced-concrete design. Each has advantages and disadvantages.

The contents of a building should materially influence the decision as to the material of construction. I have seen many cases where strictly fireproof reenforced-concrete buildings have been completely ruined by a very hot fire in the contents. Under extreme heat, concrete will "check" away from steel work, and it presents a very difficult problem of repair after a fire. The reenforced-concrete building, however, is a very safe risk from the point of view of combustibility of the building itself.

Slow-burning mill construction, although combustible, will not weaken and deteriorate during or after a serious fire, while reenforced concrete or steel will. The heavy timbers will char through to a depth of a half an inch or an inch, without seriously injuring the strength of the structure. The char can be scraped away and painted, and the building is in practically as good condition as formerly.

Steel beams, however, unless thoroughly fire-proofed with gypsum brick or other material for fire resistance, will twist and bend out of shape, making reclamation impossible.

Either type of construction, however, if furnished with adequate sprinkler protection, materially reduces the fire risk.

A large group of buildings should be broken up into sections by means of fire walls, which may be pierced for openings and doors if each of these openings is protected by an approved fire-door or shutter. These fire doors, should be furnished with fusible links, so that in case of fire they will close automatically and protect the balance of the building. Care should be taken, however, to make sure that no obstruction is placed in a redoor opening which would prevent the door from closing.

The protection of vertical openings is probably the most important single factor in building construction from the fire hazard view-point. Open stairways, light wells, and elevator shafts serve as flues for the rapid spread of fire and smoke from lower floors. The majority of fires start in basements and on ground floors. Hence such open paths for fire are particularly dangerous. All stairways and elevator shafts should be enclosed with fire-resistive walls and partitions, protected by fire-doors. Other openings through floors, such as belt holes, can be suitably protected by metal enclosures. An example of the danger of vertical openings even in fire-proof buildings is furnished by the fire in the Chamber of Commerce building, New Haven, a few years ago. Here fire originated in packing material in the basement. The smoke swept up an elevator shaft and mushroomed out on the top floor resulting in the death of two men. Doors had been provided between the basement and the shaft, but for some reason they were not closed at the time of the fire.

Protecting Buildings from Fire

Wire glass and steel sash have done much toward protecting buildings from fire on the outside and from damage to the windows themselves through fires on the inside.

Engineers are paying more attention to the hazards of roofs. They are covering them with fire-proof material.

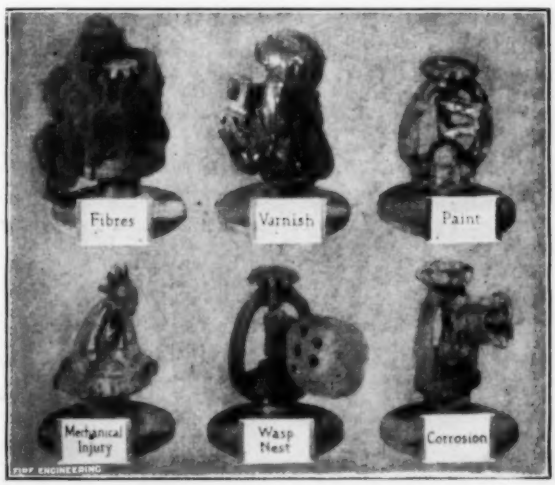
Windows in the vicinity of fire-escapes should be equipped with wire glass and with steel or galvanized-iron frames. This will prevent fire from breaking through the window and making the use of a fire-escape dangerous or impossible.

The location of exits, stairways, and fire-escapes should receive careful attention.

All fire-escapes and exit stairways should be of sufficient width and of such design as to provide exits for all of the employees in the factory at once. Each room in a factory should have at least two methods of egress, preferably at opposite corners of the building. All stairways should be built into fire-proof enclosed towers, with fire-doors between the main building and the tower itself. There are many types of fire-escapes, but according to fire prevention authorities, the presence of a fire-escape of any sort on the outside of a building is evidence of the inadequate character of the interior fire-exit arrangements.

Fire-Escapes Should Be Tested Regularly

The maintenance department should test out the fire-escapes periodically, to be sure that they are securely fastened to the building and that there is no obstruction which might interfere with the flow of employees from one floor to another. Chute fire-escapes are the most effective under certain conditions.



Why the Sprinkler Heads Fail to Operate.

An exhibit of six sprinkler heads showing why the heads failed to open at the proper time. Each one of the exhibits is labeled and shows why frequent inspection of the heads is necessary.

All fire-escapes should be painted periodically, to eliminate any possibility of disintegration of the metal. Inspections should determine that the foundations upon which they rest are solid.

I make it a practice to have at least 15 men, carrying reasonable loads, go up and down the fire-escapes at least once a year, to see that they are securely fastened in place.

Many factories go to the expense of installing scuppers in their building walls to carry off water. Unless care is taken in the installation of these scuppers, they will prove worthless. In many cases scuppers have been placed at a higher level than the floor itself, making it impossible for water to run down on the outside. Many times I have noticed scuppers filled with rubbish. Scuppers should be cleaned at least a year, and the small hinge which carries the outside flap should be oiled so that it will move easily. During a fire, scuppers are frequently closed by floating debris carried to them by the water. Frequently scupper openings are not tight, and because of floor drafts employees block them up.

Floor designs have been changed to meet fire protection

*Reprinted from Factory.

requirements, especially in the slow-burning mill type and the concrete type of construction. Slow-burning mill design consists of at least a three- or a four-inch plant floor, with possibly an intermediate floor, and finally a wearing surface of maple or of hard pine. Here we have a floor which, under ordinary circumstances, will withstand the effect of fire for a considerable time.

When laying out a plant, engineers should consider the distances between structures, from the standpoint of the fire hazard. This applies particularly to the boiler-plant.

The Fire Commissioner and His Department

(*Continued from page* 1144)

a good deal of gaily colored equipment on wheels which should not be classified as fire apparatus, but rather as glorified junk. I believe it is the duty of every fire commissioner to eliminate, as far as possible, this useless equipment and replace it with the best that money can buy.

Fire Alarm and Water Supply

We all know that with splendid men and up-to-date equipment we could not control or extinguish fires without a first class fire alarm system and a good supply of water—the system to advise fire companies of the existence of fires and the water on hand to put them out. As cities in America are growing by leaps and bounds, these two points are material factors and we commissioners and fire chiefs should look years ahead and see that provision is made for them. There has been no substitute introduced, so far in our work, that takes the place of water as a fire-fighting agent, and there has been no invention for transmitting alarms that can take the place of the modern fire alarm system with the telephone as an auxiliary.

Some thought has been given to the possible use of radio as an auxiliary for transmitting fire alarms, but at this time nothing has been sufficiently perfected to be of real dependable and practical value. Speaking of modern devices, it may seem far-fetched to say that the aeroplane will be in general use later on, but it is now being successfully used by the United States Forestry Service to locate fires and spread the alarm. The point to be remembered in this regard is that we should not overlook any modern device that science may bring forth to assist us in our work.

The commissioner and fire chief should arouse and create public sentiment by personal interviews and talks to civic bodies, advising them of what will be needed in years to come and soliciting their cooperation in supplying the needs.

Politics Must be Eliminated

Speaking generally, we people in the fire fighting business must remember that one of the main functions is to give the public service at the least possible cost. We must get away from pernicious politics in the selection of our men and the doing of our work. We have got to show the people that we are real public servants, willing to serve, and not ordinary tax-eaters and parasites. The fire business itself must be studied and every effort bent toward removing fire hazards and reducing fire losses, for after all, the loss by fire sustained by a community is the measure by which a department is gauged.

It is a well known fact that fire losses in America are greater than in any other civilized country on the globe, the loss for the year 1925 being $570,225,921 in the United States alone. Complaint has been registered with us that fire insurance companies, in their zeal to secure a volume of business, are not particular where they place it, thus encouraging would-be arsonists in their nefarious business. If insurance companies and their agents would cooperate with fire commissioners and chiefs by refusing insurance to those of doubtful motives and character, it would have a tendency to prevent fires. It is a notable fact in America that during times of business adversity there are more fires than in times of business prosperity. In some countries the person having a fire is compelled to prove that he was not responsible for the same before any insurance money is paid.

To help reduce this appalling fire loss, fire departments in large cities should take a paternal interest in small surrounding communities and towns and should be willing at all times to cooperate with these small departments and help build them up so that they will be efficient and effective.

To Cultivate Good Will of Public

More attention should be paid to fire prevention work and the removing of fire hazards. Laws should be introduced and enforced under the police powers giving the fire department greater authority in carrying out its work. There is one great factor that we public servants must not overlook, and that is that the taxpayers and citizens are apt to be prejudiced against us in our efforts to advance our departments, when it will cost them additional money to do so; but if we keep in mind at all times that we are the servants of the public, paid to render service, and if we render the service and make ourselves invaluable, we will never need to fear but that the general public will be back of us in all our reasonable demands.

What Must be Done to Save Life and Property

Our main idea is to save life and property:

1st. By preventing fires, removing fire hazards, condemning old frame shacks that are fire traps, etc.
2nd. By educating the public to help prevent fires.
3rd. By proper building methods and the use of fire resistant materials in construction.
4th. By placing in all buildings adequate fire extinguishing equipment and alarm systems, as an auxiliary to the fire department proper.

Importance of Salvage Squad

Again referring to the fire fighting end of it, the old idea was to put the fire out at any cost, but for this must be substituted the modern idea of putting the fire out in the least possible time with the least damage to property. This requires a good deal of judgment on the part of the officers and men in charge.

Departments that can possibly support a salvage squad and wagon should do so, because wherever this equipment is installed the saving to the people in merchandise repays the taxpayer a thousand-fold for the cost incurred.

This brief outline will perhaps give you some idea that the fire business has ceased to be a simple matter; that application and study are required for those who would succeed and that a fire commissioner has a real job if he expects to be a success.

Commissioner Should be Help to Department

Speaking generally of fire commissioners, the commissioner can be a wonderful help to the department if he is the right kind of a man. Some fire commissioners are elective and some appointive. The method of their selection does not matter so much as does the type of men chosen. A fire commissioner with a big, broad vision, with a firm and definite policy toward the men and the work, will produce good results; on the other hand, a weak or a vicious man will bring upon the department discredit and disgrace. Therefore, it is essential that men in the business, to be successful, must have high ideals; and that we must have those to lead us who have the three main fundamentals—honesty, competency and courage.

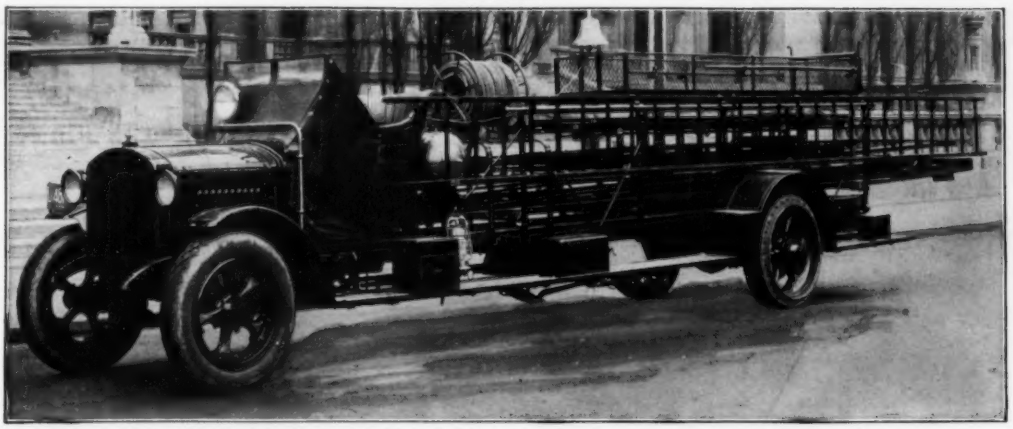
Enforcement of Strict Rules and Regulations

Discipline is a necessary evil in the department, because wherever large numbers of men are gathered there is bound to be some delinquency. Therefore, it is necessary that there be strict rules and regulations in every fire department; but unfortunately there are those who violate these rules and regulations. It should be the function of a fire commissioner in hearing charges that are filed against employes of the department to adopt a definite line of procedure and policy, and not be wavering and vacillating in its application. Chiefs and their assistant officers must also have the same policy, and be just and kind, but firm and positive, for without this cooperation, as I have said before, the commissioner is unable to do his work. In dealing with those who are delinquent, it is found that certainty of punishment is more effective than extreme severity in some cases and no action in others.

In conclusion, it must be remembered that a department, likewise a city, is no greater than its men, and that a fire commissioner cannot possibly succeed without their cooperation. Therefore, the greatest function of a fire commissioner, as heretofore mentioned, is to select a first class chief and good men to support him, if he expects to give his city and its taxpayers an efficient administration, which in financial terminology means a dollar's worth of service for a dollar in pay.

Kalamazoo Acquires Aerial Ladder—An aerial ladder truck has been delivered to Kalamazoo, Mich. The purchase price was $15,000.

Crestwood, N. Y., Company Gives Entertainment—The Crestwood, N. Y., Chemical Engine and Hose Company No. 14 gave an entertainment on October 14, consisting of an "All-Crestwood Night," at the Asbury Methodist Church, in that section. A travel talk given by Mr. Ehlenberg, moving pictures of the Fourth of July Celebration and games, and a vocal quartet constituted the features. This company buys and maintains its own apparatus, and has recently taken out liability insurance as a protection for its members. The entertainment was given to raise funds to defray this expense.



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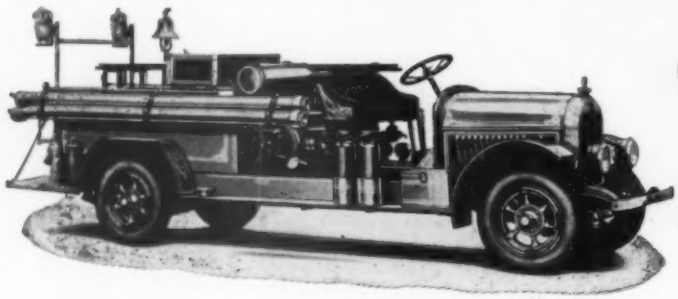

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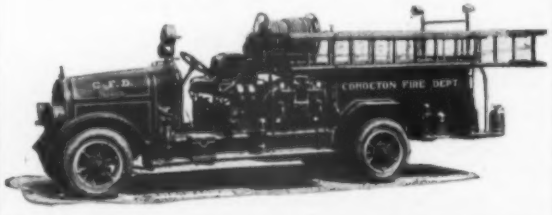

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OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

Pay for Volunteers*

One question likely to arise at the organization of a volunteer fire department is the one of pay. In the old times this was never mentioned or thought of, for firemen were volunteers in a literal sense. This they undoubtedly are in very many cities and towns of the present day and yet we hear of other localities where "volunteers" are paid as a matter of course. An old-fashioned way of looking at this is to consider the firemen's services worth very much more than the citizens can afford to pay, and that, consequently, any small recompense would be an affront. A very practical idea, born of some little experience, is that as a general rule a volunteer department is more enthusiastic, has a better spirit and is quicker and livelier in every way when the members get no pay at all. Furthermore, the demoralization of many such departments has dated from the time the pay commenced, for it opens a prolific field of dissatisfaction and dissension. Should a man feel that he gets out in the snow on a cold winter night for a dollar or two in money,—or for the duty he owes the community, and his pride and interest in his company? Of what use were the volunteers in the Rebellion who went to war for the bounty, or the trifling sum given them?

For the sake of the principle involved and to avoid bickerings in the future, if the question of pay is raised at a preliminary meeting, some good talker should be ready to appeal on the foregoing lines to the manliness and self-respect of the prospective volunteers, and to say something of the necessity of devoting every available dollar to equipment.

Pay for Damage

The strongest argument in favor of paying volunteers lies in the damage to their clothing at fires; yet the firemen of fifty years ago would have dropped from their company the man who advanced it. Some of this loss is unavoidable, as when an alarm sounds while most members are arranged in their best attire, but much can be prevented by reasonable preparation beforehand. One effective remedy for dissatisfaction of this kind is to be generous in furnishing fire hats, rubber coats and like personal protection. From the standpoint of the citizens and town authorities this is also good economy, for volunteers will work better when properly safeguarded against accidents, cold and wet. The purchase of these very necessary articles should be one of the first subjects taken up when a fire department is organized, and it is also something that should figure in the annual expenditure estimate of every town, instead of being neglected until a large sum has to be spent in a lump.

Hours Should be Considered

If nearby towns do pay their "volunteers" and the new firemen insist upon like treatment, it may not be easy to harmonize the various ideas and agree upon a fair basis. We know that the proposition of paying individual members a certain sum for each alarm answered, has been strongly condemned, principally because in many localities it was found to actually cause fires. However, this same charge has been made when a company as a whole was paid by the alarm. A more popular method is to pay each fireman by the hour worked at fires; for instance, a dollar for the first and fifty cents for each succeeding hour. As the attendance on any kind of an alarm is usually counted as the first hour, whether work is done on a fire or not, this plan is essentially the same as paying by the alarm, but it has a better reputation as to incendiarism.

*Reprinted from the N. F. P. A. Quarterly.

Second Short Fire Course Held at Ames

The second annual short course for firemen was conducted at the Iowa State College at Ames, Ia., on October 26-29. A large number received the benefit of this course and expressed the desire that this form of instruction for the firemen be continued.

On the first day of the course, Anson Marston, Dean of Engineering, welcomed the firemen who came for the course. He was followed by J. A. Tracy, state fire marshal, who spoke on "How Iowa is Meeting the Fire Menace." Harry K. Rodgers of the Western Actuarial Bureau, better known for his activities as fire clown addressed the men on "What Training the Fireman Should Have." He was followed by a talk and demonstration on the first aid and resuscitation by a first aid crew of the Des Moines Fire Department.

On the second day H. W. Hartupee presented a paper on "The Hazards in Types of Building Construction," and there was a round table discussion on the paper. Clarence Goldsmith, assistant chief engineer of the National Board of Fire Underwriters, Chicago, explained how to handle and store combustibles. Chief Callahan and some of his men gave a demonstration on how to handle ladders and other fire equipment. Harry K. Rodgers spoke on the "Modern Methods of Fire Fighting." How Fort Dodge is reducing its fire losses by salvage work was explained by Chief Callahan, and a demonstration was staged in first aid work.

Harry J. Corcoran, chief engineer of the Iowa Insurance Service Bureau at Des Moines, Ia., told "What the Firemen Should Know About Fire Streams." The topic of "Modern Use of Chemicals in Fire-Fighting," was ably handled by O. R. Sweeney, head of the chemical engineering department at the state college; round table discussion followed.

J. E. Florin, superintendent of the Fire Prevention Industrial Commission of Wisconsin talked on what Wisconsin is accomplishing by fire prevention inspections. The Foamite Childs Company arranged a demonstration on handling oil fires. Mr. Goldsmith gave a talk on the "Proper Selection of Fire Fighting Equipment for the Small Town and City." Mr. Corcoran presented a paper on "The Place for Fire Protection Appliances," and following this there was a round table discussion.

The Pyrene Company of Kansas City, Mo., arranged for a demonstration; Chief Tiller of Waterloo demonstrated the use of ladders and hose in getting to the various parts of a burning building. H. D. McDonald, department manager for the Grinnel Company, explained the workings of the sprinkler system. Assistant Chief Warren Tayler of Des Moines outlined the fire fighting problems of that city.

Problems of the volunteer fire department were discussed by Chief W. H. Frazier of Webster City and others. Those who attended expressed the fact that they were well rewarded for the time spent.

Modern Fire Alarm Signaling

(*Continued from page* 1150)

the side plates put on and tightened up. The stamp should be wiped off and kept clean at all times.

They should be oiled the same as the registers and with the same kind of oil and no other. If at any time it is desired to send the stamp back to the factory remove the glass plates and do not send them with the stamp but hold the glasses until the stamp returns. If the stamp is sent to the factory with the glass plates installed they may break and the glass may get into the mechanism and do severe damage. Wrap the stamp with a good heavy paper and place it in a wooden box with plenty of excelsior to protect it. A letter should be enclosed giving the reason for return of the machine, nature of the trouble, etc., in addition to the date purchased, city received from and any other information you think necessary.

Every two years, the stamp should be overhauled by a good workman and where it is not capable of being done locally, it should be sent to the factory where purchased. Letting the stamps go for year after year will result in the stamp becoming useless and it will be necessary to have a new one installed.

Troubles and Their Remedies

Stamp fails to operate after register stops working.

Register contacts dirty—clean contacts with a dental file or croucus cloth.
Battery fuse blown—replace fuse with new one.
Register contact lever stuck—release lever and learn cause of it sticking.
Register run down allowing contact lever to stop in its travel—wind up register.
Registration faint and impossible to read—ribbon worn, turn ribbon reel to new spot.
Weak battery—build up battery to 100 milliamperes.
Paper tape stops before signal become readable—type wheels clogged with ink or dirt and need cleaning.
Type wheels clogged—needs new ribbon, old one should be replaced.

Paper feed on register not adjusted properly—adjust feed on register.

Time stamp prints wrong time and clock does not operate minute wheel.

Clock contacts dirty—clean contacts with croucus cloth or dental file.
Clock local battery blown fuse—replace fuse with new one.
Time stamp spring run down—wind up spring on time stamp.
Weak battery on clock circuit—build up battery to 100 milliamperes.
Residual magnetism in magnets—break down magnetism.

Time clock loses time but clock operates correctly.

Too much tension on magnet armature spring—adjust spring properly.
Detent on minute wheel not working—watch operation and learn why detent is not operating. It may be broken, etc.

Take Up Reels

A take up reel is a spring driven mechanism which automatically winds up the paper tape as it is punched and stamped. Fig. 32 shows a side elevation with the winding reel and stop lever. The mechanism is very simple and does not warrant a detailed description here. The take up reel functions as soon as the tension is taken off the tape by the action of the register; the action is stopped by the stop lever raising and braking the movement.

It should be installed in a direct line with the punch register and time stamp, and care should be taken to line it up properly so that the paper tape will run free and not bind on the sides of the reel. After the tape is fully wound and a new one placed on the time stamp and register the old tape should be taken off the take up reel for future reference.

The take up reel should be wound up the same as the time stamps and registers. They should be oiled at the same time the other apparatus is oiled and only Kelly's watch oil used.

The eccentric washer on the stop lever should be so adjusted as to allow the reel to run until the lever rises; at this time the eccentric washer should act as a brake. If the paper tape should break the reel will automatically stop on the down sweep of the stop lever.

The next article will take up master clocks, time switches, and limiting devices. The author of these articles would be pleased to receive news items of interest that take place in your local fire alarm department—information concerning freakish operation, disastrous storm, loss of apparatus by fire, flood, tornado, etc. Anything that you think might be of interest to others engaged in the Fire Alarm Profession will be acceptable.

INTERNATIONAL FIRE-FIGHTERS HOLD CONVENTION IN PHILADELPHIA

Gathering Endorses Record of Comm. Barry of Cleveland—Asks for Share of "Fire Brigade" Picture Proceeds

THE annual convention of the International Association of Fire Fighters was held in Philadelphia, Pa., on October 4-9 inclusive. The gathering was officially opened by the address of welcome delivered by Chief Ross B. Davis of Philadelphia who told the visitors to inspect the various fire stations in the city during their leisure moments. He told the men of the work of the International Association of Fire Engineers in getting out their picture the "Fire Brigade." Other welcoming remarks were made by some of the city officials.

An interesting talk was delivered by D. Knickerbacker Boyd, a former secretary of the American Institute of Architects—he emphasized the importance of the inspection of buildings and chimneys before the structure was completed. Purcy Bugbee, field engineer of the National Fire Protection Association, gave an interesting resume of the work of the association and of the necessity of cooperation of all organizations in order to reduce the fire losses.

David J. Price, engineer in charge of the development work of the Bureau of Chemistry of the U. S. Department of Agriculture at Washington, D. C., presented a paper on the Importance of Dust Explosion Prevention. His paper has been printed in pamphlet form and has been distributed by the association. In the talk he outlined some of the precautionary measures to follow.

A resolution was introduced but failed to pass concerning the increase of the per capita tax of the members in order to further the work of the association along fire prevention lines. The present tax is fifteen cents per member per month and it was suggested it be increased to twenty-five cents.

The convention went on record as endorsing the attempt of the New York city firemen to establish a three-platoon system—in other words an eight-hour day. It was stated that this would lessen the trying hours of fire-fighting.

Wheeling, W. Va., is operating under a law whereby the city may have a two platoon system. The association recommended that the word "may" in the city ordinance should be changed to "shall" so that the two-platoon system would be established.

It was recommended that the association have a central bureau of information so that it may be of assistance in some of the wage increase fights being conducted by the firemen in various cities. The members were urged to mail to the association, all printed propaganda that they have successfully used in obtaining an increase in their salary. A recommendation was also made that the cities of Halifax, N. S., and St. John, N. B., operate on the two-platoon system. It was felt that the locals in Canada should be entitled to the same working conditions as those in the United States.

In order to safeguard against any legislation that might be detrimental to the best interests of the firemen, the body recommended that the men try to form state organizations in such states where there is no such body formed.

In the future, the association will have on file all copies of civil service rules of the various cities throughout the United States and Canada for information of the affiliated locals. The organization will continue to cooperate to have fire prevention laws passed and to carry on propaganda for the education of the public.

A rather surprising thing was the resolution introduced that the organization has found that the statements concerning certain allegations made by Commissioner Edwin D. Barry, director of public service of Cleveland, Ohio, were false. The men gave a vote of confidence to the commissioner and stated that he is a friend of the Cleveland local, and firemen generally.

Another resolution that was introduced and was passed was one asking that the International Association of Fire Engineers share with the International Association of Fire-Fighters, the money that they will receive from the "Fire Brigade." They based their demand on the fact that the picture was made through the cooperation of the various firemen throughout the country and that some appreciation should be shown towards the men for their work. The copy of the resolution was forwarded to the convention of the International Association of Fire Engineers at New Orleans, and a letter was sent to the various officials connected with the production of the picture.

The following officers of the association were re-elected:

President, Fred W. Baer, Washington, D. C.; secretary-treasurer, George J. Richardson, Washington, D. C.; vice presidents, Edward F. Looney, Cambridge, Mass., Robert J. Cole, Wheeling, W. Va., Hugh O'Donnell, Minneapolis, Minn., Albert Higgin, Saskatoon, Sask., Canada, E. W. Powell, Tacoma, Wash., L. N. Riley, Portland, Ore., H. E. Anderson, Salt Lake City, Utah, Charles A. Boger, Fort Smith, Ark., J. F. Watkins, Birmingham, Ala., and Donald Dear, Ottawa, Ont., Canada. The new vice presidents elected are Antion Holterback, New York city, A. F. Wesselny, St. Louis, Mo., and Scott Power, Zanesville, Ohio.

The convention will meet next year in Milwaukee, Wis., and the date will be announced later.

Siren Installed in Eutaw, Ala.—An electric fire alarm siren has been installed in Eutaw, Ala.

Yuma, Ariz., Not to Respond to Outside Calls—The city council of Yuma, Ariz., has ordered that the fire apparatus is not to go outside of the city. It was feared that at some such time, the city would be left without fire protection.

Fire Limits May be Extended in Ft. Dodge, Ia.—The city council of Fort Dodge, Ia., are considering extending the fire limits of the city to take in additional territory in the north, south and east parts of the city.

Perry, Okla., Has Low Fire Loss—With only a fire loss of $31 during 1925, Perry, Okla., is trying to claim the honor of having the lowest fire loss in the state. The fire loss is the result of two small fires.

No Increase for Birmingham, Ala., Firemen—The firemen of Birmingham, Ala., were denied their petition for an increase in salary of $25 a month. The city council said that because of increase in the number of men in the department that they had planned, it was impossible to consider the salary increase.

New Fire Alarm Boxes Being Placed on Staten Island—Fifty of the new type fire alarm boxes are to be installed on Staten Island, Borough of Richmond, New York city. The boxes in use at present require that the door be opened by a handle before an alarm may be turned in. In the new type boxes, it is only necessary to pull a handle that is placed on the outside of the box. All of the old boxes will be replaced with those of the newer design.

Q. What is ANALOX?

A. A Paint.

Q. How does it differ from other paints?

A. It is more durable. It costs less. It is more economical to apply. It dries more quickly.

Q. Is it anything more than a paint?

A. Yes. It is a fire retardant.

Q. What is the "ANALOX PROCESS"?

A. A process for protecting wood shingle roofs against fire brands.

Q. How effective is it?

A. Tested by the Engineering Laboratory of Columbia University the roof treated with the "ANALOX PROCESS" withstood successfully the famous "burning brand test" which is used by the Laboratory of the National Board of Fire Underwriters.

Q. What is the bearing of this on fire hazards in American Cities?

A. Wood shingle roofs impose a terrifying "conflagration hazard" on practically all our large cities. The existing risk from wood shingles can be done away with at relatively small cost by the "ANALOX PROCESS".

Q. How should the matter be handled in your city?

A. A local contracting company should be formed to apply the "ANALOX PROCESS" under license from us. This process should be made compulsory for all wood shingle roofs in congested districts.

For particulars write to:

THE ANALOX PAINT and COLOR CORP.

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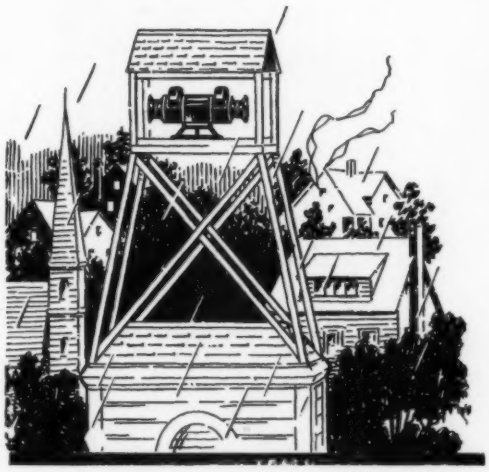
The Great Sterling Electric Siren



Do not depend upon bells and whistles, but install a Sterling Model M that will shriek out the fire signal for miles around. Its warning can never be mistaken and it always commands attention and quick action.

Write for particulars and terms of purchase.

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FIRE ALARM BOXES

Approved and recommended by Fire Department Engineers and Officials in every section of the country. Completely protected and housed in cast aluminum cases, originated by this company and proved superior to all other types.

Investigate these boxes before you buy. Catalog describing complete Fire Alarm and Police Signaling equipment mailed free upon request.

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Manufacturers

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The Standard for the Fire Fighters of America

The Burrell All Service Gas Mask is the only mask approved by the United States Government for complete protection against Carbon Monoxide, Ammonia and every known poisonous gas. Write for Bulletin F-3.

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All operating threads are above the stuffing box.

No toggles, small screws or other small, quick-wearing parts.

All moving parts are bronze or bronze bushed.

The outside casing permits replacing a two-way standpipe with a steamer and two-way standpipe without digging up the ground.

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FIRE DEPARTMENT ACTIVITIES

Lakeside, Ind., Has New Pumper—An Ahrens-Fox pumper has been purchased by Lakeside, Ind.

Monroe, N. Y., Installs Siren—A siren has been installed at Monroe, N. Y.

New Fire Alarm Boxes for New Colville, Wash.—New fire alarm boxes are being placed in New Colville, Wash.

Carlock, Ill., Purchases Chemical Apparatus—A double chemical tank mounted on a Ford truck has been purchased by Carlock, Ill., at the cost of $2,600.

Gladstone, Mich., Purchases Pumper—Gladstone, Mich., has ordered a Boyer pumper of 500-gallon capacity. It is to be equipped with two 35-gallon chemical tanks.

Paducah, Ky., Firemen Trained in Ladder Work—The firemen of Paducah, Ky., are receiving intensive training in the operation of the new ladder truck.

Marshall, Tex., to Have New Fire Station—Bids are being invited for the erection of a combined fire station and city hall in Marshall, Tex.

Cheswick, Pa., to Have Fire Alarm System—An automatic fire alarm system consisting of four fire alarm boxes will be installed in Cheswick, Pa.

Roseland, N. J., to Purchase Pumper—Bids are being invited by Roseland, N. J., for the furnishing of a 750-gallon pumper at an early date.

Park Falls, Wis., Purchases New Pumper—A Seagrave pumper has been purchased by Park Falls, Wis. It will be delivered some time in December.

Luxemberg, Wis., to Have Additional Protection—A committee from Luxemberg, Wis., are studying the fire equipment needs of the village with a view towards improving its fire defenses.

Ladysmith, Wis., Purchases Fire Apparatus—Ladysmith, Wis., has purchased a 500-gallon pumper from the W. S. Nott Co. In addition, a new chassis has been purchased on which to mount the present chemical equipment.

Large Number of Dolls Destroyed in Brooklyn Fire—A thousand voices were stilled when fire destroyed a number of mama dolls on the Dollar Line freighter as she lay at her berth in Brooklyn, N. Y.

Muscatine, Ia., Firemen Receive Pay Increase—An increase of five per cent in the salary of firemen of Muscatine, Ia., has been granted by the city council. In the petition that was presented to the council, the men asked for ten per cent increase in pay.

Rhinebeck, N. Y., to Have New Fire Station—A new fire station will be erected at Rhinebeck, N. Y. It will be constructed of brick and will be thirty by fifty feet. It is hoped that the building will be completed before the freezing weather sets in.

St. Paul, Minn., Being Sued for Pension Fund—The St. Paul, Minn., Fire Department Relief Association has started court action to compel the city to add $9,500 to the appropriation for the firemen's pension fund. The city claims that it has no funds available for the pension fund.

Chiefs of West Orange, N. J., Attend Banquet—A dinner was given in honor of retiring Chief James J. Sheehan of West Orange, N. J., and Martin J. Kennedy, the newly appointed fire chief. Many of the city officials attended the dinner arranged to honor the fire chiefs.

N. Bergen, N. J., Company Awards Medals—Several members of the fire company of North Bergen, N. J., were awarded medals for twenty-five years of activity in the fire department. The presentation was made at a banquet in the fire house.

South Euclid, Ill., to Have More Apparatus—The city council of South Euclid, Ill., has approved the request of Chief J. A. Falkner for the acquisition of more fire apparatus and the question of a $15,000 bond issue to finance this purchase will be decided by the voters at the November election.

Entire Company Shifted in Boston, Mass.—The entire membership of Engine Company No. 6, Boston, Mass., was transferred to other stations and several men were suspended for the good of the service as a result of charges that have developed as a result of thefts made after a 3-alarm fire.

Boston May Have Change in Meal Hours—Mayor Nichols has recommended to the city council that Boston, Mass., firemen be allowed a meal period of an hour and a quarter when on the twenty-four hour shift of duty under the two-platoon system.

Peter Pirsch Plant May Expand—The factory of the Peter Pirsch and Sons Company at Kenosha, Wis., has increased the number of men working there about fifty per cent over the figures of the year previous. If the present growth continues, the executives of the company feel that it will be necessary to enlarge the plant.

Toledo Firemen Granted Wage Increase—The publicity campaign carried on by the firemen of Toledo, Ohio, under the leadership of Lieut. C. J. Sedgwick who was chairman of the publicity committee, has proven successful. At the election the firemen's increase was approved by a majority of 12,000 votes. The minimum salary is now $2,400 a year.

Soldiers Sentenced for $2,000,000 Arson Fire—At a trial, thirteen soldiers pleaded guilty to being members of an arson ring that started fires that resulted in more than $2,000,000 damage at Fort Sill, Okla. One of the members who confessed to having set five fires was sentenced to fifty-two years, but it was later reduced to thirty-two years.

Patchogue, N. Y., May Divide Apparatus—A petition is being circulated in the village of Patchogue, N. Y., for the apparatus, which at present is being housed in one house, to be distributed in several houses about the village. Several of the nearby communities have had the disastrous experience of losing their fire apparatus as the result of the concentration of all of the equipment in one building.

Three Burned by Gasoline Blast in Home—While looking for a blanket in a closet in her home with a match, the match fell and dropped into a can of gasoline. The husband of this Philadelphia family grabbed the two children from their cots and made a dash for safety but before he could escape there was a blinding flash and burning gasoline was sprayed on the nightclothes. The wife escaped uninjured.

Former New York City Chaplain Dead—Rev. Edward Morley Huson Knapp, a former chaplain of the New York city fire department, died in his rectory at Kingston, N. Y., as the result of pneumonia. He was chaplain of the firemen for seven years and following his resignation was made honorary chaplain by Fire Commissioner Johnson, and the order cited that, "he had endeared himself to all members of the fire department with whom he had come in contact."

Rates in Minneapolis, Minn., to Increase—The insurance rates in Minneapolis, Minn., will increase because of the undermanning of the department. Chief Ringer said that he knew of the intention of the companies to increase the rates, following an inspection of the city's fire defenses. The survey recommended the addition of about seventy-five men to the department, but instead the number of firemen have been decreased since the inspection was made.

New Head of Boston Bureau of Supplies—Edward E. Williamson, supervisor of motor apparatus in Boston, Mass., has been appointed to take charge of the Bureau of Supplies and Repairs of the fire department. District Chief William H. McCorkie, the former head, has been assigned to District 9. District Chief Charles A. Donohoe has been transferred from District 5 to 13; District Chief William F. Quigley from 13 to 12; District Chief Louis C. Stickel from 12 to 5.

Newport News, Va., Active Fire Prevention Week—During Fire Prevention Week, the members of the fire department of Newport News, Va., visited and gave talks to the children of the various schools in the city and they gave them instruction in the proper method of sounding a fire alarm. In addition talks were given to the audiences in the various theatres. Six fire alarms were received during that week, one for a fire in a frame building and five from fires in brick structures.

New Civil Service Promotion Rules in Boston—The civil service commission of Boston, Mass., will only require six years of service on the part of the firemen before they can become eligible to take the examination for promotion to lieutenant. The candidate must be at least thirty years. It was also voted that for the examination of captain, district chief and deputy chief, there shall hereafter be a prerequisite of only one year in the next lower grade. These recommendations are in line with the plans of Commissioner Hultman to obtain younger officers for the department.

PROPOSED IMPROVEMENTS

Madera, Madera Co., Calif.—City Council considering the installation of a fire alarm system here.

Milton, Ulster Co., N. Y.—Plans are being made for the purchase of new apparatus for the Milton Point Fire Department.

Cornwall, Orange Co., N. Y.—Plans being made for standardizing the fire hydrants in this city. Wm. J. Moroney, Chief of Fire Department.

Newark, Wayne Co., N. Y.—New fire company has been organized with Steven Van Gee as Fire Chief.

Salem, Marion Co., Ore.—City planning for the purchase of new fire equipment for the fire department here.

East Honesdale (Mail Honesdale), Wayne Co., Penn.—At recent meeting of the Albert Hook and Ladder Company, Maurice Patterson was elected chief.

Williamsport, Lycoming Co., Penn.—Fire station to be erected for the Loyalsock Fire Company.

Santa Maria, Santa Barbara Co., Calif.—City in the market for fire hose for the fire department. Harry Neel, Jr., Engineer. P. O. Box 68, Santa Maria, Calif.

Hartford, Hartford Co. Conn.—City Council planning to erect new fire station at 179 Main Street; to cost $175,000.

Largo, Pinellas Co., Fla.—Fire station to be erected at Corner of Pinellas and Jackson Streets.

Blue Springs, Jackson Co., Mo.—Roy Myers was appointed chief of the recently organized fire department here.

Scranton, Lackawanna Co., Penn.—Director of Public Safety James Arigoni will in all probability re-advertise for bids on the purchase of a 1,000 gallon pumper for the fire department, and for repairing of trucks 2 and 3, which have been out of service for some time past.

Blaine, Whatcom Co., Wash.—Fire department sponsoring movement to secure a pumper to cost about $7,000.

Monona, Clayton Co., Iowa—At recent election Alfred Huinker was elected chief of the fire department.

Bay Village, Cuyahoga Co., Ohio.—Planning to purchase new fire fighting equipment. Carrol L. Beck, Mayor.

Palisades Park, Bergen Co., N. J.—New fire station to be erected in the borough to house the fire apparatus that was recently purchased.

Lewiston, Niagara Co., N. Y.—Committee consisting of James T. Carr, Village President and Wm. G. James, President of Volunteer Fire Department, was appointed to purchase a chemical fire engine. A fire station to be erected to house the apparatus.

Tarrant, Jefferson Co., Ala.—A fire alarm system is being planned at an estimated cost of $1,500.

Harmonville (Mail Conshohocken), Montgomery Co., Penn.—Harmonville Fire Company to purchase new uniforms.

Slippery Rock, Butler Co., Penn.—Considering the erection of a fire station. Funds being raised for this purpose.

Huntington, Cabell Co., W. Va.—Plans being made for the installation of a new fire alarm system in this city.

Milwaukee, Milwaukee Co., Wis.—The Northwest Side is to have another new fire station. Peter Steinkellner, Chief of Fire Department.

West Chicago, Du Page Co., Ill. City to purchase at once 500 feet of 2½-inch fire hose. Would like samples and prices. F. E. Schacht, Supt. Public Works.

Portales, Roosevelt Co., N. Mex.—L. W. Westerman was elected chief of the Portales Volunteer Fire Department.

West Stockholm, St. Lawrence Co., N. Y.—Kenneth Armstrong was elected chief of the newly formed fire company here. (Preliminary mention Oct. 28th).

Gardiner, Ulster Co., N. Y.—Expenditure of $7,500 for fire apparatus was authorized by the Gardiner Fire District.

Leicester, Livingston Co., N. Y.—Fire company to be organized here and apparatus to be purchased in the near furture.

Garibaldi, Tillamook Co., Oregon—Uptown business men organized fire department. F. E. Elliff selected as chief.

Beaver Meadows, Carbon Co., Penn.—The Citizens' Fire Company appointed committee to make a thorough inspection trip to determine just what type fire engine is best for its needs.

Harrisburg, Dauphin Co., Penn.—Pleasant View Fire Company No. 16 requested that a new station be erected for their use.

Phoebus, Elizabeth City Co., Va.—R. F. Snow, Chairman of the Fire Committee of the Phoebus Council recommended the purchase of 1,000 feet of fire hose for the fire department.

Lancaster, Los Angeles Co., Calif.—The local fire department raising funds for the purchase of waterproof coats and helmets.

Cloverdale, Sonoma Co., Calif.—Funds are being raised for the purchase of fire apparatus for the local department.

Sausalito, Marion Co., Calif.—Board of Trustees approved the endorsement of the purchase of a new fire engine.

Lemon Grove, San Diego Co., Calif.—Chamber of Commerce was requested to establish a fire district. Light fire apparatus and other equipment to be purchased.

Tracy, San Joquin Co., Calif.—City Council considering the purchase of fire equipment for the fire department.

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CONVENTION DATES

Nov. 10-11—MICHIGAN STATE FIRE CHIEFS' ASSOCIATION. First annual convention, Kalamazoo, Mich. Chief Charles H. Crampton, Bay City, president; Chief F. Ford, Highland Park, secretary.
Jan. 11-13—ILLINOIS FIREMEN'S ASSOCIATION. 39th Annual Convention, Quincy, Ill. Secretary, Roy W. Alsip, Champaign, Ill.
Jan. 18-20, 1927—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION, 45th Annual Convention, Columbus, Neb. Secretary, H. A. Webbert, Kearney.
Aug. 14-16, 1927—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. Annual convention, Elmira, N. Y. Frank A. Emden, secretary-treasurer, 1200 Lenox Ave., Utica, N. Y.
Sept. 1927—KANSAS STATE FIRE CHIEFS' AND FIREMEN'S ASSOCIATIONS. 11th and 40th Annual Conventions, Kansas City, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan.
Sept. 7-8, 1927—MISSOURI STATE FIRE CHIEFS' ASSOCIATION. 5th Annual Convention, Kirksville, Mo. Secretary, District Chief J. T. Lynch, Kansas City, Mo.
Sept. 7-8, 1927—MISSOURI ASSOCIATION OF FIRE FIGHTERS. 2d Annual Convention, Kirksville, Mo. Secretary, M. J. Mulvoy, 3500 S. Grand Boulevard, St. Louis, Mo.

THE FIRE MARSHALS' ASSOCIATION BECOMES SECTION OF THE N. F. P. A.

Votes at Annual Convention to Affiliate With Larger Body—Will Act Under Same Plan as the City Fire Commissioners

THE Fire Marshals' Association of North America, which recently held its twenty-first annual convention in Memphis, has taken an important and significant step in uniting with the National Fire Protection Association as a fire marshals' section of that important body. On the last day of the Memphis meeting Fire Marshal J. A. Tracy of Iowa, the dean of the fire marshals' organization, presented the following resolution which was adopted without a disssenting vote:

"Whereas the purpose of the Fire Marshals' Association of North America during the twenty-one years of its existence has been to foster the cause of fire protection and to assist its members in their official duties and services to the public in the reduction of fire waste, and;

"Whereas it now appears that this purpose can in the future be best obtained by affiliating our work, both collectively and individually with a large national association to which we can contribute our special experience and from which we can receive assistance and support in many ways;

"Therefore it is hereby resolved that the Fire Marshals' Association of North America hereby votes to unite with the National Fire Protection Association as a fire marshals' section of that organization, and that an executive committee of five members be designated at this meeting with power to act for the Fire Marshals' Association on all matters and directed to arrange for a meeting of the section at the time of the next annual meeting of the National Fire Protection Association."

The executive committee called for in the resolution was elected at the final session and is officered by J. A. Tracy of Iowa as chairman, W. A. Elstun of Kansas as vice chairman, C. L. Topping of West Virginia as secretary. The committee will plant a half-day's meeting of the fire marshals on the day before the annual convention of the N. F. P. A. next May, and take steps to merge with the big organization at its opening session, establishing a fire marshals' section into which it is proposed to welcome all city fire marshals, as the latter officers have much the same problems as the state officials of which alone the old fire marshals' association has been composed. The city fire commissioners already have a section in the N. F. P. A. now of two years standing, and the new fire marshals' section will function in the same fashion, maintaining its group autonomy within the membership of the N. F. P. A. but bringing, as the city fire commissioners do, its problems before the entire association membership for discussion and cooperative action.

While the official ceremony of amalgamation will not take place until the May meeting, the N. F. P. A. fire marshals' section is to begin functioning at once, its officers having decided as the first work of the section to promote such amendments to the arson laws of the various states as will facilitate the conviction of incendiaries. There is scarcely a state in which the arson laws are not so clouded by their phraseology as to permit the escape of firebugs through technicalities. The officers of the section have asked F. R. Morgaridge, chief of the arson department of the National Board of Fire Underwriters, to make a study of the text of this law in each of the forty states in which the legislature meets next year, and suggest such amendments as will, if adopted, achieve the result desired. It is proposed that these measures shall be presented to the legislatures by the fire marshals of the states for which they are especially drawn, and that the members of the National Fire Protection Association in these states shall be asked to exert their influence in support of the fire marshals' project.

Asst. Chief G. L. HOWE, of the Ridgefield Park; New Jersey Fire Department, writes:

"Ship ten Dontfear Smoke and Fume Respirators to complete the dozen. We have two at present that your representative left here and have found them satisfactory."

Much Better Than We Expected is the verdict of those using the

DONTFEAR

Smoke and Fume Respirator

Send For Descriptive Catalogue

No Sponge. Price $5. With Airtight Goggles $5.60

Gibbs-Wahlert Mask Co.

388 Jay St., Opp. Fire H'q'trs Brooklyn, N. Y.

C. A. M.

The Greatest of All Fire Apparatus Sirens

Unconditionally Guaranteed

See our page ad in last issue

C. A. M. Manufacturing Co.

802 Humboldt Bank Bldg., San Francisco, Cal.

When Fighting Fire

Across Railroad Tracks

Protect Your Hose Lines and Apparatus

with our

Fire Department Emergency Railroad Train Stops

Burn Red for Twenty Minutes

12 train stop lights for $5.00. In neat box for apparatus.

CENTRAL RAILWAY SIGNAL COMPANY
NEEDHAM HEIGHTS, MASS.

Fire Department Ladders
Fire Fighting Appliances

Our LADDERS are accepted as standard throughout the United States. We build TRUSSED and SOLID SIDE types, also POMPIER or SCALING Ladders.
DOOR OPENERS, CELLAR PIPES, SIAMESE CONNECTIONS, DAY PIPES AND SHUT-OFF NOZZLES, ACID JARS, MISCELLANEOUS CHEMICAL TANK EQUIPMENT, etc.

Write us when interested.

Combination Ladder Co., Inc.

381 Fountain Street Providence, R. I.

RED ARROW SIREN

Siren with Storm Hood

1. Double-tone, and of greatest carrying power.
2. Ball bearings throughout.
3. Accurately machined and balanced.

30 Days' Free Trial

Write for Circulars

DECOT MACHINE WORKS
Sauk City, Wis.

"Pirsch" Builds Complete Line of Motor Apparatus

Let Us Submit Bids on Your New Apparatus

Catalogue No. 16 Now Ready! Send for it.

PETER PIRSCH & SONS CO.,

Since 1857
Kanosha, Wisc.

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DO you ever stop to think that every advertiser in these pages offers either a product or a service that has certain unique advantages which he believes will interest and be of value to you? Otherwise it wouldn't be worth his while to advertise.

Almost every page contains the offer of some product or service that you would find of value in your department. It will pay you to read the advertising pages as carefully as you do the editorial.

"The wise man is he who is always willing to learn." It will pay you to read the advertising pages carefully.

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242 W. 55th ST New York City

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Illustrated Catalog gladly sent on request.

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of every description, stronger than lead and none-corrosive. Used by departments throughout the country.

Chemical Tanks and Lally Quick Opening and Self-packing Top for Chemical Tanks

Lally Improved Fire Hose Couplings, Fire Extinguishers and Charges, Fire Hose and Fire Department Supplies in General

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MAXIM MOTOR COMPANY, Middleboro, Mass.

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FIRE BOAT EQUIPMENT

Invincible and Callahan Nozzles

Fire Department Supplies

are in use throughout the country and giving unsurpassed service.

Every fire official should be fully acquainted with Morse equipment and have our catalog and other descriptive literature on file for ready reference whenever considering the purchase of new equipment.

You will find that it pays.

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Andrew J. Morse & Son, Inc.

221 High St. Established 1837 **Boston, Mass.**

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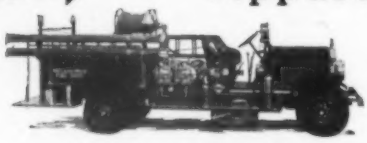

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Builders of Quality Products for 15 Years

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The latest and most advanced development in gas masks. Fire officials everywhere should get the facts.

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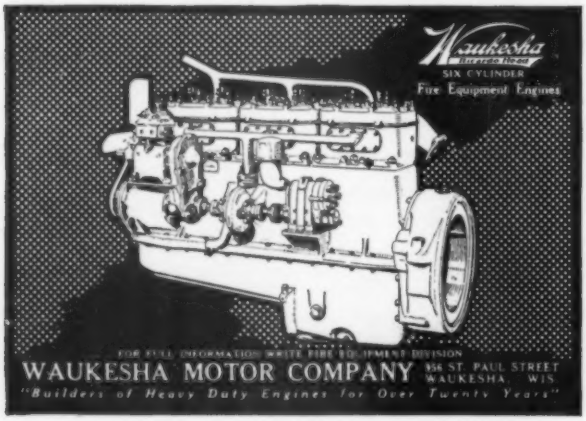
Schavoir Rubber Co. Stamford, Conn.



When in the Market for New Equipment

please write us and we shall be glad to have the right manufacturers provide you with complete specifications and prices for your consideration. This service won't cost a cent nor place you under any obligation whatever. We just want to cooperate both with you and with manufacturers in every possible way.

FIRE ENGINEERING

225 W. 34th St., N. Y. C.

Recent Patents

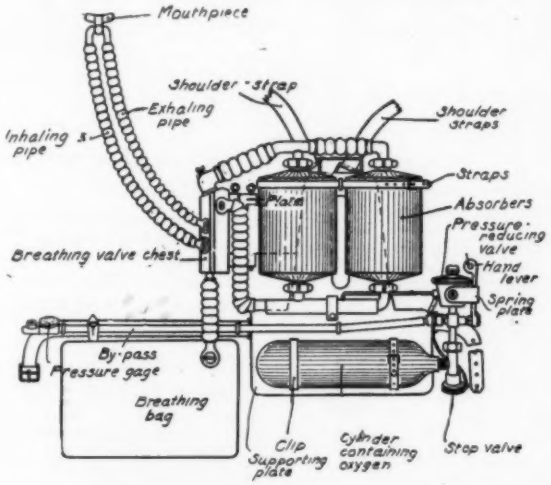
Descriptions of Patents Recently Issued of Interest to Fire Departments—Breathing Apparatus for Use With Noxious Gases

Breathing Apparatus

A self-contained breathing apparatus for noxious gases has been patented (No. 1,579,919) by Alexander Bernhard Dräger of Lubec, Germany. The device is worn on the back thereby enabling the wearer to enter buildings where there are noxious and poisonous gases.

The illustration shows a diagramatic view of the apparatus spread or extended flat on the ground.

The apparatus consists of a mouthpiece, a flexible exhaling pipe, a breathing valve chest connected by a flexible pipe and a branch pipe with the lower end of one or more air purifying cartridges or absorbers. The upper ends of the latter are in communication with the valve chest by means of a suitable flexible connecting piping while a flexible inhaling pipe leads from said valve chest to the mouthpiece. The apparatus further includes an oxygen containing cylinder having a closing member or stop valve which admits oxygen through a pipe to a pressure reducing valve; the latter provides for the automatic flow of oxygen there and through the pipe under reduced pressure. A



breathing bag is connected to the valve chest by the flexible pipe and a flexible by-pass conduit, and it extends between the oxygen supply pipe and another supply pipe. A spring press-button mechanism is arranged at the reversing point of the by-pass, and a pressure gage is mounted in connection with the high pressure branch of the by-pass conduit, preferably close to the press-button valve so that the wearer of the apparatus may at any time easily look at the gage and ascertain when the oxygen in the cylinder is becoming exhausted.

The absorbers, the branch pipe and the oxygen cylinders are mounted on and securely fastened by any suitable means such as buckle straps and pipe clips to a supporting plate provided with shoulder straps. The supporting plate has a lateral extension or arm to the end of which is articulated the valve chest preferably by means of a double hinge connection. For example the hinge connection may comprise a plate having eyes or lugs at its longitudinal edges which are pivoted by pins to corresponding lugs of the arm and the valve chest. With this arrangement, the chest may yield under the influence of external forces and the like, and it may swing on either hinge pin or both.

The supporting plate is provided at its sides with suitable leather straps for holding the supporting plate in position close to the body of the wearer. The by-pass conduit and the breathing bag may be suspended in any appropriate manner from the waist strap so that after the wearer has put on the apparatus the press-button valve and the gage are readily accessible.

Owing to the lateral position of the valve chest, it is possible to lead the breathing pipes up under the arm of the wearer to the breathing organs and consequently in a position where the same is most convenient. The pivotal attachment to the chest renders it possible to adjust the chest and breathing pipes to any desired position. After disconnecting the couplings of the pipes and removing the hinge pins, the valve chest may be readily and easily removed as a whole or self-contained part of the apparatus for cleaning purposes.

The exhaled air traverses the absorbers from below in an upward direction while the purified air escapes at the top of the absorbers. Due to this arrangement, a better utilization of carbonic acid absorbing power is obtained and at the same time, the formation of moisture as well as the agglomerating and clinkering of the chemicals is reduced.

The connection that permits of the passage of high pressure oxygen from the cylinder to the pressure reducing valve is provided at its side with a casing in such a manner that the bores of the connection and the casings are situated at right angles to each other in different planes and some distance apart. The two bores are in communication with each other by means of a small bore so that the oxygen from the cylinder may pass directly into the casing without passing through the pressure reducing valve. The connection and the casing are made in one single piece to form a sort of cross-piece constituting a self-contained structure capable of being mounted and dismounted as a unit and at the same time avoiding the necessity for high pressure packings between the said two parts. A stop valve operated by a hand lever controls the passage of the oxygen through the casing. Such stop-valves are well known and need no further description. In the operative position, the hand lever is secured against unintentional turning by a suitable spring plate attached to the casing of the pressure reducing valve and embracing the lever with yielding pressure.

By means of screw-cap, a nipple is fitted to the threaded end of the casing. A high pressure pipe is soldered around a wire rope which serves as a supporting core. The end of said wire rope is fastened in a suitable recess of a plug whilst the high pressure pipe is passed through a central bore of this plug. The high pressure pipe and the core passes around the body of the wearer. The press-button is supported by an elastic membrane suitably suspended in an aperture being surrounded with a protecting rim or flange. The interior of the cap is in communication with the bore of the plug by way of a perforation in the bottom of the casing and an eccentric bore of the nipple.

Under ordinary conditions, the bell crank lever is under the pressure of the spring and the outlet is closed or sealed by the valve so that the high pressure oxygen can not enter into the reduced pressure oxygen return branch of the by-pass conduit. The forward branch of this conduit is constantly in communication with the interior of the oxygen container filled with high pressure oxygen.

Charlotte, N. C., to Bar Wooden Shingles

The city commissioners of Charlotte, N. C., have voted to include the ordinance prohibiting the use of wooden shingles in its code of laws. Residents of Charlotte whose houses are now covered with wooden shingles are given until February 1 to put on the prescribed new roofing. The change is expected to bring about an appreciable reduction in the insurance rates. The matter of barring the use of wooden shingles has been considered by the city government for the past ten years.

D. G. SPENCER.

Chief Hobson of San Jose, Dead

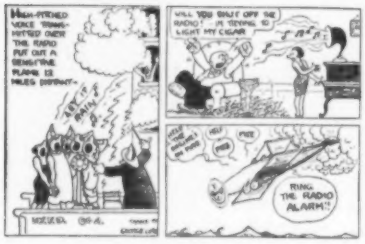
Following an attack of influenza which developed as a result of pneumonia, Herman W. Hobson, chief of the fire department at San Jose, Cal., died October 7.

He was born on December 17, 1872, and his parents were pioneers in the settlement of the valley. The chief was educated in the public schools and as a young man worked both as a mill hand and a sign painter. On December 31, 1908 he joined the fire department and his close application to the vocation that he had chosen soon won him promotion to lieutenant. On February 1, 1910, he was promoted to captain. Mr. Hobson was made assistant chief in January 1915, and advanced to chief on December 1, 1919.

While never courting prominence, Chief Hobson was an ardent worker for every cause which promised advancement for San Jose and vicinity. He was a member of the International Association of Fire Engineers, and the Pacific Coast Association of Fire Chiefs, of the Native Sons, Eagles and Order of Moose.

Chief Hobson is survived by his widow and one daughter.

FALSE ALARMS



A Possibility of the Radio in Fire-Fighting

THE LIGHT IN THE NIGHT

Countless thousands, Old and young,
Have heard this piercing cry;
Across the years, thru smiles and tears
We've heard, both you and I.

Fire; Fire; Fire;
Call the fighters of the flame,
Save my home. My life's desire
Will not then have been in vain.

This S.O.S.—a scream distress
Alarmed a neighbor near,
In haste he sped in mortal dread
Forgetting his career.

Across the way he spied at last,
The evidence of fire,
Arrived at a conclusion fast
No time now to retire.

A box upon the corner near
Must serve its purpose now,
Uncared for there from year to year
It keeps a secret vow.

A flash of light; A ringing bell,
Men scrambling for the pole,
A moment's breathless wait will tell,
Here's where we get to roll.

"It may be mine," A buddy cries
Above the sirens shriek.
"Step on it son" A bud replies,
Each moment seems a week.

But get there right side up, It pays,
So rules the dauntless chief.
Step on it; hurry; no delays,
Take shortest cuts, be brief.

Thus starts the day from midnight on,
From morning until noon
A flash of light, a bell, They're gone
No; never there too soon.

Concealed within the silent night,
A countless throng appears
From no where, guided by the light
That turns smiles into tears.

Here whispers fall. There others call.
"Move back," a copper yells.
At last a sound brings joy to all
They hear those clanging bells.

"Move in two lines," "A ladder there,"
"Break in the skylight pane,"
"One line above, one up the stairs."
No occupants remain.

A mighty task, tho it may last
A moment or an hour.
A drama with an all star cast
Endowed with fighting power.

How few the songs of victory,
To shame the conquered foe;
From whom brave men in terror flee,
Ten floors or more below.

The little home so dearly won
Thru years of honest gain,
Is closed now to the morning sun
That shines there all in vain.

"Destroyed by fire" the headlines read
Complete, beyond repair,
Yet where there's life, there's hops, 'tis said;
Warning others to beware.

A word of praise, a tribute paid
To fighters of the flame,
Defends an emblem God has made
America's dearest name, "HOME SWEET HOME."

F. D. CAMPBELL,
Hoseman, Eng. 1,
Long, Beach, Cal.

A VISIBLE LIE

Bill was brought before the fire chief on the charge of being under the influence of liquor. The chief told him that two men were reported to have carried him home the night before.

"It is a lie, Chief," interrupted Bill somewhat excitedly, "there were four of them and they dropped me seven times on the way home."

THE REASON WHY

"How is it," asked the examiner of the suspected fireman, "that I find that your description of how to fight a second-story fire is exactly the same as the description by Roberts in his paper."

"That's nothing," replied the fireman not a bit flustered, "I suppose that we were describing the same fire."

THE INTENTION COUNTS

A fireman was detailed to theatre duty, and as he stood in some obscure corner watching what was going on back-stage, he detected an Irishman smoking his corn cob pipe.

"What's the matter with you," roared the fireman to the stage hand, "can't you see that sign says 'No Smoking'?"

"Faith, an' I'm not smoking."

"Well, what then are you doing? You have a pipe in your mouth."

"Begorra," replied the Irishman, "an' I have my two feets in me boots but I'm not walkin'."

IT SERVED AS WELL

The captain had the firemen lined up in the dormitory for the daily inspection, and he observed that Fireman Collins did not have a toothbrush—an appliance which all the other members of the company boasted as having.

"Where's your toothbrush," he demanded.

"Here sir," said the fireman as he produced a large scrubbing brush from its hiding place.

"You don't mean to tell me that you can get that large thing into your mouth," roared the captain angrily.

"No sir," explained Collins. "I don't get in into my mouth—I take my teeth out."

YES, WITH WHAT!

The civil service doctor was making his annual inspection of the fire department to determine the physical condition of the men.

At one of the houses, one of the men approached the doctor timidly and asked, "What's good for my wife's fallen arches, doctor?"

"Rubber heels," was the laconic reply.

"What shall I rub them with, doctor?"

"Hello, manager! I want another room! This one is on fire and I can't get to sleep!"—Judge.

BI-LATERAL FIRE HOSE

THE BI-LATERAL FIRE HOSE CO.
230 West Randolph St., Chicago, Ill.

If you will furnish your firemen with a soft pliable hose that will stand the gaff, using the rocker lugcoupling, they can do better and more efficient work. Bi-Lateral Fire Hose fills this bill.

We can tell you something else about it that will prove interesting.

In a HENDERSON Uniform

you always get correct tailoring, dependable quality, reliable workmanship, at the lowest prices consistent with values.

Catalogue illustrating the popular Styles of Firemen's Service Parade Uniforms or for prize contests, as well as Shirts, Belts, Hats, Caps, Badges, Banners, &c., mailed on request.

Write giving Number of Outfits desired and color Cloth preferred.

HENDERSON & CO.
11th & Race Sts., Philadelphia, Pa.

JOHN H. CLAY, INC.

1320 Ridge Ave., Philadelphia, Pa.
Established 1864

Manufacturer Siamese connections, fire hose couplings, plug connections, wrenches, etc.

JACOB REED'S SONS

Founded 1824 by Jacob Reed

FIREMEN'S UNIFORMS

Thoroughly tailored of especially selected fabrics. Uniforms that look well, wear well and that will give entirely satisfactory service.

Reed's Uniforms are most economical because they represent full value for the amount expended.

Write for catalog and prices.

1424-1426 Chestnut St., Philadelphia, Pa.

Cloth Uniform Caps for Firemen

Made of high quality blue uniform cloth, guaranteed not to fade. Cut on the New York Fire Dept. regulation pattern. Price $2.25, Postage extra. Other grades, $1.75 and up.

GEORGE BRUNSSEN COMPANY
151 Greene St., New York

The Perfect Satisfaction and economy of wearing the

"FAMOUS KALAMAZOO"

Firemen's Uniforms has been proven by thousands of firemen. Catalog F501 will tell you all about them.

The HENDERSON-AMES CO.
KALAMAZOO, MICH.

The Logical Place

To advertise for bids and proposals for all Fire Department needs is in the pages of FIRE ENGINEERING. Write for special rates.

Compressed Air Fire Whistles, Fire Alarm Boxes, Gongs, Etc.

Complete Systems Installed

Estimates Cheerfully Given

LOPER FIRE ALARM COMPANY
Stonington, Conn.

LARKIN Shut-off Nozzles

Over 2000 Fire Departments

have 15,000 Larkin Shut-off Nozzles in service. They have a successful record that is not exceeded by any article used in the fire service. Specify and insist upon them in buying new apparatus.

Write for catalog

The LARKIN Mfg. Co.

Dayton, Ohio

High Grade Fire Dept. Supplies of All Kinds

CLIFTON SALVAGE COVERS

have all the good points.

- *The most convenient size—12 x 18 feet*
- *The right weight—About 38 pounds*
- *Strong, heavy duck and lapped seams*
- *An absolutely waterproof double coating of a high grade, long life, rubber compound*

Many large Protective Departments use them

Send for our circular

CLIFTON MFG. CO.

Jamaica Plant District Boston, Mass.

HALE PUMPS

IF you have a job which is uncomfortably close, try a Hale pump. Hale Dreadnaught Pump efficiency is enough higher than other pumps to create leeway where no leeway exists.

HALE FIRE PUMP CO.

Conshohocken, Pa.

Quick-Acting Reliable

Anderson-Hale Improved

FIRE STATION DOOR OPENERS

Over 1,300 sets of Anderson-Hale Fire Station Door Openers are in successful use. They provide simple, durable, quick-acting doors that open inward. No obstruction to sidewalk. Attractive in appearance, cannot sag, closes tight, excludes cold, gives clear opening. Opens from driver's seat or from floor. Many repeat orders from users.

Write for complete information.

The Anderson Coupling & Fire Supply Co.

Mfrs. Motor Fire Equipment and Fire Supplies

Kansas City, Kansas

Waterous Dependable

ROTARY PUMPS FIRE HYDRANTS

Agencies in Principal Cities

Send for our Complete Catalog

WATEROUS FIRE ENGINE WORKS

INCORPORATED

St. Paul, Minnesota

HAHN

Motor Fire Apparatus

Write for literature and prices on our 250, 350, 500 and 750-gallon triple combinations, chemical and hose combinations and city service trucks.

Hahn Motor Truck Co.,

Hamburg, Pa.

EDDY Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.

Waterford, N. Y.

James B. Clow & Sons, Chicago Agents

The "Corey" Fire Hydrant of the improved Rensselaer type is the easiest to operate of any on the market.

Ask for prices and details

FILL IN AND MAIL TO

RENSSELAER VALVE CO., Troy, N. Y.
Send me Hydrant Book, No. 9.

Name .....

Street ..... City .....

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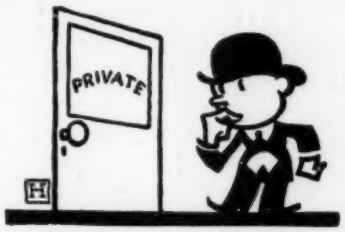

This page is here to make it convenient for you to get complete specifications and prices from the leading manufacturers of the country of fire equipment and supplies of all kinds without cost to you and without any obligation.

To get this information just run down the list below and mail the coupon to us filled out with name and address and with the numbers that indicate the equipment in which you are particularly interested.

We will then notify reliable manufacturers of such equipment of your interest and request that they send you complete information. They will gladly do this and it will be a pleasure for us to help you in this way. So go to it! Help yourself.

Here's Your List of Fire Protection Equipment and Supplies

1 Acid Siphons.
2 Adaptors for Changing Hydrant Threads.
3 Acid Jars and Rings.
4 Aerial Ladders, Detachable.
5 Aerial Trucks.
6 Alarms, Siren, Electric.
7 Alarm Systems, Industrial.
8 Alarm Systems, Municipal Telegraphic.
9 Alarms, Thermostatic.
10 Asbestos Clothing.
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal.
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
21 Building Materials, Fire Retardant.
22 Cable & Wire, Fire Alarm.
23 Caps, Firemens.
24 Chains, Non-Skid, Fire Apparatus.
25 Chassis for Fire Apparatus.
26 Chemical Engines and Tanks.
27 City Service Trucks.
28 Coats & Suits, Firemen's Quick Hitch.
29 Combination Chemical & Hose Cars.
30 Cutting & Welding Equipment, Blow Torch.
31 Cutting & Welding Equipment, Electric.
32 Deluge Sets.
33 Door Openers, Fire Station, Automatic.
34 Extinguishers, Fire, Soda & Acid.
35 Extinguishers, Fire, Tetrachloride.
36 Extinguishers, Fire, Foam.
37 Extinguishers, Fire, Powder.
38 Fire Boat Nozzle Equipment.
39 Fire Department Supplies, General.
40 Fire Drills & Organizations.
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42 Fire Alarm Posts.
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44 Fire Escapes, Rigid.
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49 Gas Masks and Respirators.
50 Gas & Smoke Helmets.
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53 Helmets, Metal, etc.
54 Hose Carts, Reels & Racks.
55 Hose Clamps.
56 Hose, Fire.
57 Hose, Chemical.
58 Hose Holders.
59 Hose Jackets.
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61 Hydrant Draining Pumps.
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76 Pumps, Fire Apparatus.
77 Pumps, Fire Service, Stationary.
78 Pumps, Portable, for Fire Protection.
79 Record Books, Fire.
80 Relief Valves.
81 Reviving Apparatus, Oxygen.
82 Rubber Clothing.
83 Searchlights.
84 Shingles, Fire Retardant.
85 Shirts, Firemen's Special.
86 Sirens, Apparatus & Chiefs Cars.
87 Sliding Poles.
88 Soda & Acid Chemicals.
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90 Squad and other Auxiliary Cars.
91 Sprinkler Head Shut-Offs.
92 Sprinkler Supervisory Service.
93 Sprinkler Systems, Automatic, Foam.
94 Sprinkler Systems, Automatic Water.
95 Starters, Fire Apparatus, Automatic, Air.
96 Steam Fire Engines.
97 Tarpaulins & Fire Blankets.
98 Tetrachloride Chemicals.
99 Thawing Equipment, Hydrant.
100 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid.
101 Tractors.
102 Traffic Clearing, Systems.
103 Triple Combination Pumping Cars.
104 Uniforms.
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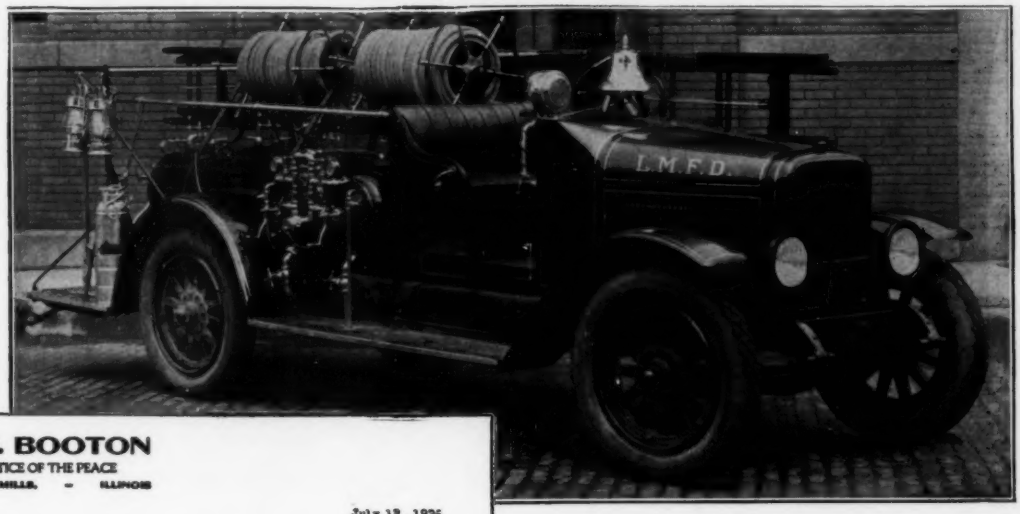

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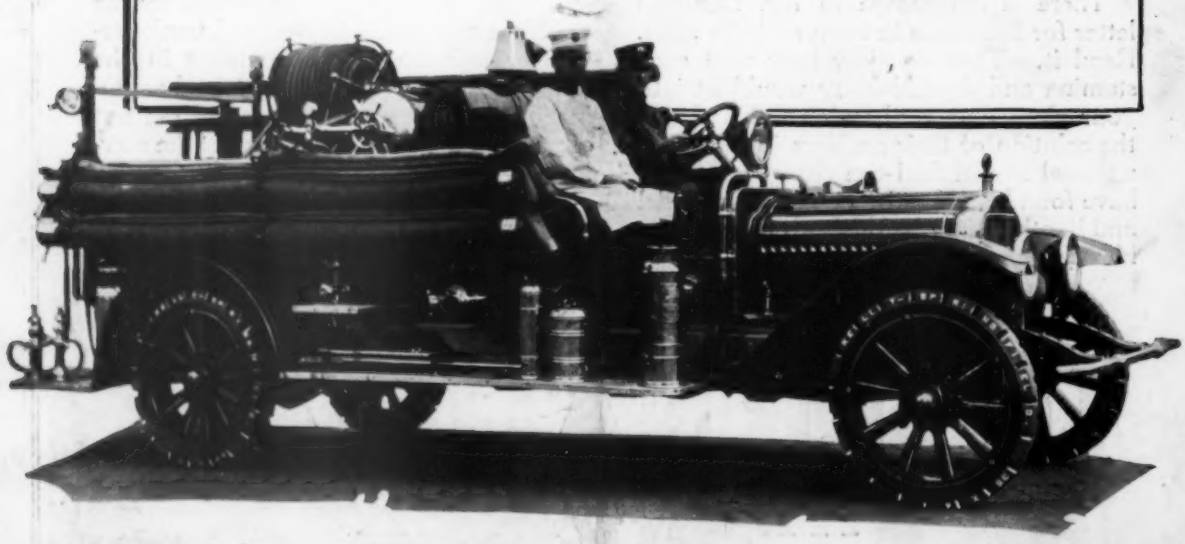

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